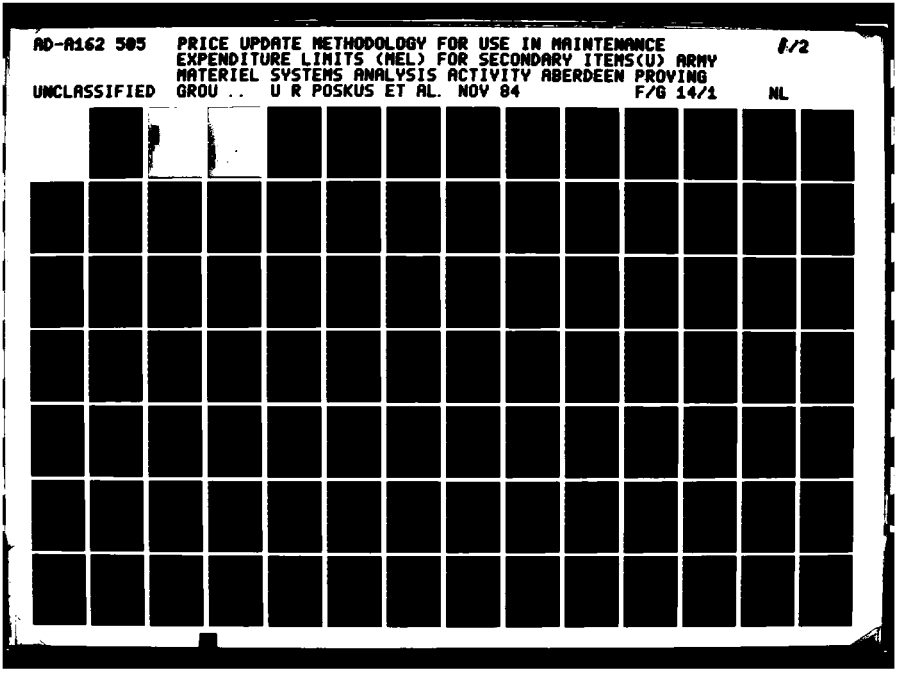
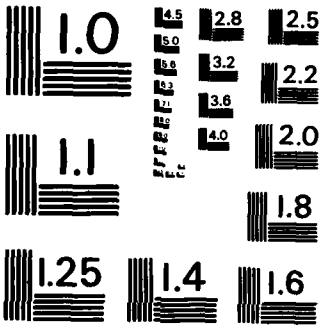
AD-A162 505 PRICE UPDATE METHODOLOGY FOR USE IN MAINTENANCE EXPENDITURE LIMITS (MEL) FOR SECONDARY ITEMS(U) ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY ABERDEEN PROVING GROU .. U R POSKUS ET AL. NOV 84 F/G 14/1 NL





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To prevent uneconomic repairs, the Army assigns a Maintenance Expenditure Limit (MEL) to each reparable item. The MEL is calculated by applying a percentage factor to the Current Unit Replacement Price (CURP) of the item. Many reparable items have had no procurements in recent years, and thus a method is needed to estimate the CURP. Five different sets of historic inflation indexes were evaluated for their suitability in estimating the CURP. A 14-year history of procurement data of Army troop support and

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aviation items was used to measure the accuracy of these index sets. The analysis showed that the present procedure of using the latest available procurement price is substantially less accurate than using updated prices. However, each of the five index sets evaluated was approximately equally accurate in predicting current procurement prices. Thus, the Gross National Product index was chosen as most suitable since it was the simplest to apply and was most readily available.

PRICE UPDATE METHODOLOGY FOR USE IN MAINTENANCE EXPENDITURE LIMITS (MEL) FOR SECONDARY ITEMS

LOGISTICS STUDIES OFFICE

PROJECT NUMBER Ø21

TECHNICAL REPORT

NOVEMBER 1984

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US ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY

FORT LEE, VIRGINIA 23801-6046

ABSTRACT

To prevent uneconomic repairs, the Army assigns a Maintenance Expenditure Limit (MEL) to each reparable item. The MEL is calculated by applying a percentage factor to the Current Unit Replacement Price (CURP) of the item. Many reparable items have had no procurements in recent years, and thus a method is needed to estimate the CURP. Five different sets of historic inflation indexes were evaluated for their suitability in estimating the CURP. A 14 year history of procurement data of Army troop support and aviation items was used to measure the accuracy of these index sets. The analysis showed that the present procedure of using the latest available procurement price is substantially less accurate than using updated prices. However, each of the five index sets evaluated was approximately equally accurate in predicting current procurement prices. Thus the Gross National Product index was chosen as most suitable since it was the simplest to apply and was most readily available.

Report Title: Price Update Methodology For Use In Maintenance Expenditure Limits (MEL) For Secondary Items

Study Number: LSO Ø21

Study Initiator and Sponsor: Directorate for Supply, Maintenance and Transportation (AMCSM-PAS), HQ AMC.

ACKNOWLEDGEMENTS

A peer review of this report was made by Mr. Matthew A. Rosenblatt and Mr. Russell U. Farrell.

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EXECUTIVE SUMMARY.

1. Authority for the study. The sponsor for this study is the Directorate for Supply, Maintenance and Transportation, (AMCSM-SA), Headquarters, Army Materiel Command (AMC).

2. Background.

a. Through use, items of Army equipment wear out, are damaged, or break and require repair. At its depots, the Army Materiel Command has the facilities and manpower to make these repairs. However, it is not economical to repair some items because of their obsolescence or the uneconomical consumption of resources. To determine if repair should be undertaken, a decision rule called the Maintenance Expenditure Limit (MEL) is used. The MEL is a dollar value which is compared to the expected depot repair cost (called the Unit Total Cost [UTOT] at depots) for the item. If the expected repair cost is less than the MEL, the repairs are made, but if the repair cost is greater, the item manager for that item at the Major Subordinate Command (MSC) is required to reevaluate the advisability of the repair. His decision has both economic and readiness implications.

b. The MEL is defined in Army Regulation (AR) 750-1, in Field Manual (FM) 29-23, and in Technical Bulletins in the 43- and 750- series. The MEL is a maximum one-time repair allowance expressed as a specific dollar amount which is a percentage of the Current Unit Replacement Price (CURP) of the item. The MEL dollar value is a product of the MEL factor (a percentage) and the current actual or estimated item price. At the present time the MEL factor upper limit of 100% is used, i.e. expected repair costs can be as high as the price of an identical new item.

c. Army Regulation 750-1 uses CURP as the term for the 'price of an identical or equivalent new item if bought and paid for today' and this terminology is used throughout this report. Also, the term "repair" is used here as a generic term for the various levels of repair performed at depots i.e. inspect and replace, overhaul, rebuild.

d. AR 750-1, chapter 3 states that for major items, the source for the CURP is the planning price listed in Supply Bulletin (SB) 710-1-1. The SB 710-1-1 prices are prepared by the Depot Systems Command (DESCOM) based on a methodology developed by the Logistics Studies Office (LSO) in LSO Project 903, Major Item Price Update Procedures (MIPUP). For all other reparable items, the source is the Army Master Data File (AMDF), prepared by the Catalog Data Activity (CDA).

e. Interviewees at MSCs and depots state that these sources are often not used and that prices are obtained from any source at hand. Furthermore, the prices for many items in the AMDF are not current. The CDA has found that 68% of the unit prices of Procurement Acquisition, Army (PAA) funded depot reparables in the Commodity Command Standard System (CCSS) National Stock Number Master Data Record (NSNMDR) are older than two years, with 49% being older than five years. Since item prices generally increase over time because of cost growth, if the existing older AMDF prices are used in the MEL decision, then the Army could be scrapping items that should conceivably be repaired.

f. To insure that an appropriate price from an acceptable and consistent source is used in MEL decisions, methodologies for bringing prices up to date and for keeping them updated are required.

3. Objective. To develop a procedure for updating depot reparable item replacement prices used in Maintenance Expenditure Limit decisions.

4. Limits and Scope.

a. Aviation Systems Command (AVSCOM) and Troop Support Command (TROSCOM) depot level reparable items are investigated but because of an existing methodology for major items (MIPUP), the study emphasis is on secondary items.

b. The updated prices will be used only for MEL decisions.

c. Repair can be performed at the several Army maintenance echelons - organizational, Direct Support (DS), General Support (GS), Special Repair Activity (SRA), or Depot. The focus of this study is the repair performed at the Depot level and the use of the CURP in MEL at this level.

d. Preventive maintenance is not considered.

5. Methodology. Inflation indices from various sources were applied to groupings of the reparable items to update their prices to FY84. Selected index-updated item prices were compared to actual item prices and, based on the degree of correlation, the best update method selected.

6. Findings and Conclusions.

a. Grouping Army items for index assignment can best be accomplished via the item Federal Supply Class (FSC) code. This considers only existing systems and must be caveated since certain classes of items (i.e. printed circuit boards) are managed by multiple MSCs.

b. Each of the five index sets investigated - MSC, Bureau of Economic Analysis (BEA), Office of the Secretary of Defense (OSD), combined BEA/OSD, and the Gross National Product (GNP) Implicit Price Deflator - was able to predict current procurement prices with similar accuracy. All five were

shown to be superior to the present procedure of using the latest procurement price. This is based upon analysis of a 14 year procurement history of a Troop Support and Aviation Readiness Command (TSARCOM - now two commands, the Aviation Systems Command (AVSCOM) and the Troop Support Command (TROSCOM)) items.

c. AR 750-1 currently mandates that the AMDF price be used to calculate Maintenance Expenditure Limits for secondary items. This AMDF price is usually the price paid when the item was last procured, which, as cited above, is often an inaccurate indicator of the true present price.

d. The methodology developed in this project provides estimated CURPs satisfactory for use in the MEL decision process. The amount of effort required to produce a workable methodology for establishing useable CURPs and for providing periodic updates was balanced against the highest attainable accuracy of the CURPs. However, three caveats are in order. First, the FSC does not differentiate between certain items such as printed circuit boards that are managed by multiple MSCs. Second, since the selection of the update index was made using only AVSCOM and TROSCOM items, there is a possibility that the GNP may not be the best updating index for the other Commands. Third, care should be taken in differentiating between actual and estimated CURPs. The estimated CURP should not be considered or used as an actual price unless its source was a recent procurement. The older the price that has to be updated using indices, the greater the potential error in the CURP because of the non-inflationary factors that cause price change. Therefore, while the CURP for these commodities is better than the existing price, its shortcomings must be recognized.

e. This methodology will insure that CURPs used in the MEL decision have one auditable price source available to all users and that prices that were intended for other applications are not used in this decision.

7. Recommendations

a. In developing a MEL for reparable secondary item, the Gross National Product index should be used to update item prices that are more than one year old. The rationale is that the GNP index appears to be as accurate as any of the other index sets considered, but it clearly is easier to apply and, unlike the other index sets, is applicable to all items - does not require that items be grouped for index assignment.

b. These estimated current replacement prices should be resident on and accessible from an automated system such as the CCSS.

c. Updated prices should be projected to the year of the overhaul program by means of the OSD projected inflation rates. This will require a change to AR 750-1 which currently mandates using AMDF prices for developing secondary item MELs.

d. A study should be initiated to determine the feasibility and possible advantages of using the GNP updating procedure for prices of major items. The rationale is that the GNP updating procedure is simpler than the current procedure and would be much easier to automate.

MAIN REPORT.

I. Background.

A. Through use, items of Army equipment wear out, are damaged, or break and require repair. At its depots, The Army Materiel Command (AMC) has the facilities and manpower to make these repairs. However, it is not economical to repair some items because of their obsolescence or the uneconomical consumption of resources. To determine if repair should be undertaken, a decision rule called the Maintenance Expenditure Limit (MEL) is used. The MEL is a dollar value which is compared to the expected depot repair cost (called the Unit Total Cost [UTOT] at depots) for the item. If the expected repair cost is less than the MEL, the repairs are made, but if the repair cost is greater, the item manager for that item at the Major Subordinate Command (MSC) is required to reevaluate the advisability of the repair. His decision has both economic and readiness considerations. A more in depth discussion of MEL may be found in the Logistics Studies Office Research Note 21-1, dated October 1983, (1) - (see References).

B. The MEL is defined in Army Regulation (AR) 750-1 (2), in Field Manual (FM) 29-23 (3), and in Technical Bulletins in the 43- and 750- series. The MEL is a maximum one-time repair allowance expressed as a specific dollar amount which is a percentage of the Current Unit Replacement Price (CURP) of the item. FM 29-23 discusses MEL and its uses as follows:

> Before repairing an unserviceable item, economic reparability must be determined. Factors considered are the cost of replacing the items as compared to the cost of repairs. When repair costs exceed maximum expenditure limits, cannibalization or disposal of the unserviceable item is undertaken, unless necessity dictates otherwise. In some cases, the criticality of the item and the difficulty to replace it require repair regardless of cost.

C. The MEL dollar value is a product of the MEL factor (a percentage) and the current actual or estimated item price. At the present time the MEL factor upper limit of 100% is used, i.e. expected repair costs can be as high as the price of an identical new item.

D. Army Regulation 750-1 uses CURP in the sense of 'the price of an identical or equivalent new item if bought and paid for today.' In this report, a price is current if it is no more than 12 months old and the AR definition, with this interpretation of, current is used. Also, the term "repair" is used here as a generic term for the various levels of repair performed at depots i.e. inspect and replace, overhaul, rebuild.

E. AR 750-1, chapter 3 states that for major items, the source for the CURP is the planning price listed in Supply Bulletin (SB) 710-1-1 (4). The SB 710-1-1 prices are prepared by elements of the Depot Systems Command (DESCOM) based on a methodology developed by the Logistics Studies Office (LSO) in LSO Project 903, Major Item Price Update Procedures (MIPUP) (5). For all other reparable items, the source is the Army Master Data File (AMDF), prepared by the Catalog Data Activity (CDA).

F. Interviewees at MSCs and depots state that these sources are often not used and that prices are obtained from any source at hand. Furthermore, the prices for many items in the AMDF are not current. The CDA has found that 68% of the unit prices of Procurement Acquisition, Army (PAA) funded depot reparables in the Commodity Command Standard System (CCSS) National Stock Number Master Data Record (NSNMDR) are older than two years with 49% being older than five years. Since item prices generally increase over time because of cost growth, if the existing older (lower) AMDF prices are used in the MEL decision, then the Army could be

scrapping items that should conceivably be repaired.

G. To insure that an appropriate price from an acceptable and consistent source is used in MEL decisions, a methodology for bringing prices up to date and for keeping them updated is required.

II. Objective. To develop a procedure for updating depot reparable item replacement prices used in Maintenance Expenditure Limit decisions.

III. Limits and Scope.

A. Aviation Systems Command (AVSCOM) and Troop Support Command (TROSCOM) depot level reparable items are investigated but because of an existing methodology for major items (5), the study emphasis is on secondary items.

B. The updated prices will be used only for MEL decisions.

C. Repair can be performed at the several Army maintenance echelons - organizational, Direct Support (DS), General Support (GS), Special Repair Activity (SRA), or Depot. The focus of this study is the repair performed at the Depot level and the use of the CURP in MEL at this level.

D. Preventive maintenance is not considered.

IV. Methodology. Inflation indices from various sources were applied to groupings of the reparable items to update their prices to FY84. Selected index-updated item prices were compared to actual item prices and, based on the degree of correlation, the best update method selected.

V. Analysis and Discussion.

A. Pricing discussion.

1. The ideal in this project is to provide a methodology that requires minimal effort from the MSCs in its implementation, update, and use and that provides reasonable and accurate CURPs.

2. In pricing, accuracy is difficult to measure. The price of an item recently procured is an actual price and is accepted as completely accurate. However, this price is only accurate for that one producer at that particular point in time. Even in the same time frame, a change in quantity or producer may result in a price which is different though still accurate. The price charged by a different producer in the same time frame may be different though still an accurate price. There are no absolute prices that can be used as standards. An expected price can be calculated if prices could be solicited from all potential producers of that item. Because of differences in production facilities and workload the prices that all potential producers provided would be different but generally similar. Each price is an accurate price but no one price is the accurate price. The average of these prices is also not an accurate price though it is more representative of the price that the item will cost at a point in time. Actual item prices will vary from contract to contract and time period to time period. If the same producer were used for each successive procurement of an item, then prices would be more continuous and predictable. This is not generally the case. Since contracts are usually let by competitive bidding to the lowest responsible bidder, producers can change from procurement to procurement as can unit prices. Under these conditions, the best CURPs available are the actual prices from producers when items are procured. Since many items are not procured regularly, several years may elapse between procurements and thus price updates.

3. Producers will rarely provide firm item prices on request unless they are paid for their efforts. The Defense Acquisition Regulation (DAR) does not permit expenditure of funds for the acquisition of price

data only. Also, because of the large number of items under consideration, the task of acquiring actual prices would be monumental and the burden would be on the MSCs. Further, since this level of accuracy is not required in MEL applications (see discussion below), the large expenditure of resources required could not be justified. The large number of items also required that a computer be used for assigning indices to the items and for performing future updates.

4. Indices also do not have an absolute accuracy since they are derived from the changes in price for an item or set of items over time. Indices that are developed for application to a group of similar items are relatively accurate for that group of items but the variance within the group will diminish the accuracy for any one individual item. Therefore the smaller the group of items that an index is applied to, the smaller the potential for gross error. The level of accuracy that is acceptable for MEL applications may be too gross for other applications.

5. In its application, the MEL is a guide, an aid in determining the adviseability of allocating funds to maintenance rather than procurement. It has not been applied as an absolute decision criterion. In practice, the MEL process has a lot of flexibility built into it. The item manager is responsible for satisfying demands from the field and readiness can be affected by his ability to satisfy these demands. As demands are satisfied, replenishment of stock is necessary. The item manager has two primary sources for replenishing stocks - by procurement and through maintenance of unserviceable assets. Procurement usually requires more time than maintenance. Because of readiness implications, items are often repaired at a cost that exceeds the MEL.

B. Items to be Updated.

1. The Catalog Data Agency reports that the Army uses 1,070,397 different items and components of equipment (different NSNs). Of these, 360,433 (see Table 1) are Army managed (as a point of interest, 660,837 are Defense Logistics Agency [DLA] managed Army Stock Fund [ASF] items). CDA states that of the 1,070,397 Army used items, about 5% (53,000) are depot reparable.

TABLE 1

DISTRIBUTION OF ARMY USED ITEMS

	Major Items	Secondary Items	ASF Items	OMA+Other Items	Total Items
Army Managed	36658	44052	278570	1153	360433
Managed by Others	998	174	708620	172	709964
Total	37656	44226	987190	1325	1070397

2. Of the Procurement Acquisition, Army (PAA) depot reparable items, many have prices that are no longer current (see Table 2). Table 2 shows that 79% of the PAA item prices are not current.

C. Current Price Update Procedures

1. When current secondary item prices are needed at MSCs, they can be individually prepared using the price of the item at its last update and the inflation indices developed by the MSCs for their own items or the inflation indices developed by the Office of the Secretary of

Defense (OSD). These indices were developed for application to major items but are also used on secondary items. Major item price updates are discussed later in this report. The indices and the techniques used by the MSCs for developing these indices have been approved by HQ Army Materiel Command (AMC) and are explained in the DARCOM (AMC) Historical Inflation Report (6).

TABLE 2

AGES OF PAA FUNDED DEPOT REPARABLE ITEM UNIT PRICES

Age of Unit Price in Years	Percent of Items
Ø	4
up to 1	17
up to 2	11
up to 3	8
up to 4	6
up to 5	5
up to 6	4
More than 6 years	45

Source: CDA

2. Each MSC has an inflation focal point, usually within the Plans and Analysis Division. This focal point is the resident expert on inflation indices for the MSC commodities.

D. Methodology Development.

1. The alternatives for updating the prices were to develop unique indices for individual items or groups of items using historic price data or to use indices developed by others. While the first alternative would conceivably provide more accurate prices the effort required to develop up to 40,000 sets of indices could not be justified. Therefore it was determined to develop a methodology that uses existing indices.

2. Price updates using existing historic inflation indices provide the needed price for MEL purposes while not burdening the MSCs with additional work to either provide prices or unique indices for the periodic updates of the prices. As mentioned above, the MSC indices and the method of producing them have been approved by HQ AMC and the OSD indices, the Gross National Product (GNP) index, and the Bureau of Economic Analysis (BEA) indices come from outside AMC and have been approved for use at those levels. Therefore, the indices were not analyzed for their appropriateness or applicability to the groups of items on which they are used.

3. For methodology development and test and comparison purposes an FY82 AMDF data tape was used. Data on the tape was screened for Procurement funded secondary items with a listed cost of over $1000, recoverability code of D or L (depot reparable), and segregated by source of supply code (MSC). The resulting file had almost 16000 NSNs. The selection of items with a price over $1000 was made to decrease the data base of items to a manageable level. It was assumed that depot reparable items costing less than $1000 would not be unique as a class and require different indices. Each record on the tape provides 41 fields of

information about each item. The information of interest was the NSN, Materiel Category Code, and short nomenclature (see Figure 1). AVSCOM and TROSCOM (previously one command, Troop Support and Aviation Materiel Readiness Command [TSARCOM]) items were selected for testing because of their diversity.

4. The approach was to identify existing indices that could be used for updating prices, then group the items in such a manner that these indices could be assigned to the groupings. This approach entailed grouping together items that are similar in function. Then indices were assigned. Finally, the best index alternative determined by an analysis and a comparison to historic prices was selected as the update method.

5. This grouping of items was the first step in the process to bring all prices up to date as of FY84. The next step was to develop a method of keeping these prices updated and accessible.

E. Selection of Indices.

1. Different commodity oriented sets of indices in use by AMC were available for assigning to the items; indices produced by the MSCs, by OSD, BEA, and the Bureau of Labor Statistics (BLS). In addition, the Gross National Product (GNP) index was included.

2. The MSC indices are developed by using BLS Producer Price Indices (PPI) and labor rates weighted by their contribution to the cost of the item or by applying the PPIs directly. Then the index for that item is applied to the group of items which it represents. HQ AMC consolidates these indices in the DARCOM (AMC) Historical Inflation Report and these indices were used in this project. Each MSC produces Research and Development (R&D), end item (major item), and component indices. For this

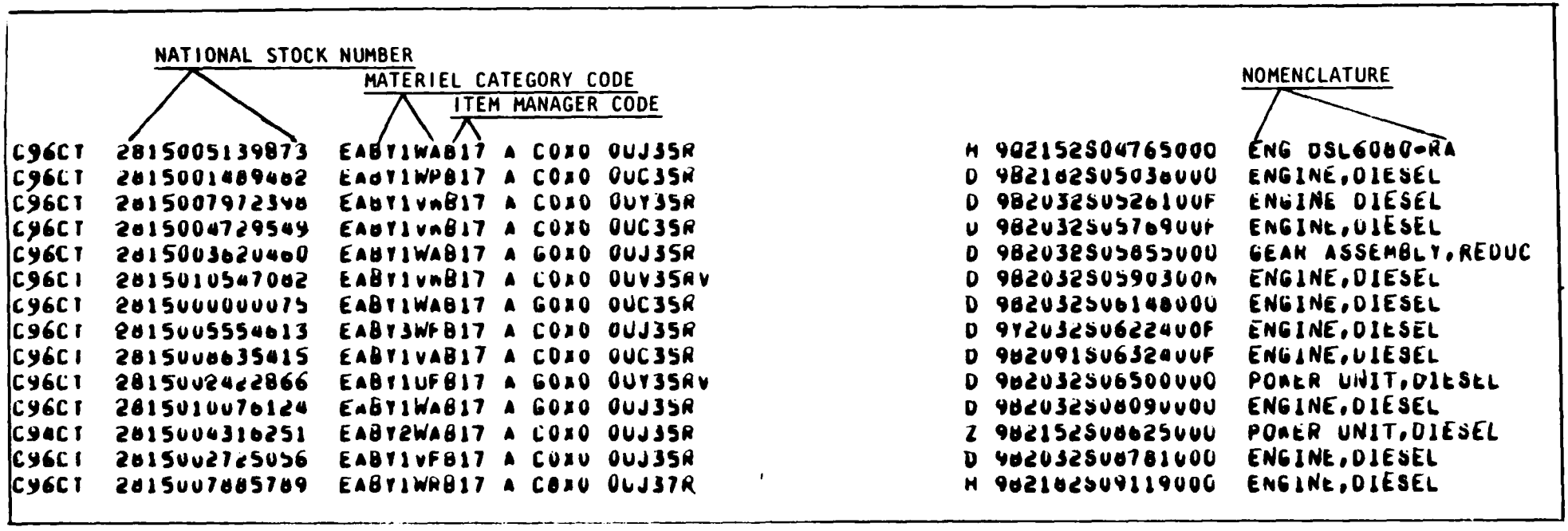

FIGURE 1. AMDF RECORD

project component indices were used where available and end item indices for components if component indices were not available. For example, AVSCOM produces R&D, Airframe Production (component), Engine Production (component), Avionics Production (component), Aggregate Air Vehicle Excluding Avionics (end item), and Aggregate Air Vehicle Including Avionics (end item) indices. The secondary items investigated in this project required only the airframe, engine, and avionics production indices.

3. TROSCOM, because of the diversity of items it manages, has the largest number (10) of different indices. The Communications and Electronics Command (CECOM) uses one index for its items. The other MSCs have between two and six indices each. The 29 index titles are descriptive of the items on which they are to be used. For convenience, each MSC index set was assigned a code e.g. '1' is the code for the AVSCOM Airframe Production Index set (other codes are shown in Figure 4).

4. The OSD produces nine index sets, two of which are applicable to Army items. These indices are based on BEA data but are for cost growth due to inflation only.

5. The BEA produces seven index sets, six of which were used in this project. These indices are produced using selected contract (actual) prices but are only available from 1973 to the present. These indices measure cost growth whereas the MSC and OSD indices measure only the inflation component of cost growth. The items were grouped by similarity of inputs, prices, end use, and expected price movement.

6. Of the 106 Bureau of Labor Statistics indices tabulated in the BLS Monthly Labor Review (9), 22 had application to Army items. The assignment of these indices would follow the same rationale as that for MSC

indice assignment but actual assignment was not attempted since the MSC indices are based on the BLS indices.

7. The BLS publishes Producer Price Indices for a great variety of items and commodities a few of which can be used directly for Army items. Also, many of the MSC derived indices use PPIs as components of their material and labor weighted indices. It should be noted that TROSCOM uses these PPIs directly for its items.

8. One of the best known inflation indices is the Gross National Product Implicit Price Deflator - commonly called the GNP index. The raw Gross National Product (GNP) is a dollar statistic designed to measure the total activity of the general economy. Multiplying the raw GNP by the Bureau of Economic Analysis developed GNP index produces the (inflation) adjustd GNP. Since this adjusted GNP is expressed in constant dollars, its annual values can be compared to calculate economic trends, periods of recession, etc.

9. Another well known set of inflation indicies is the set of OSD inflation guidance indices. These are actually inflation predictors that are based on assumptions about future economic conditions made by the Office of Management and Budget (OMB) in the White House. The inflation guidance flows from OMB through OSD to DA and then to AMC components. Note that these indices are essentially predictions of future inflation; they are not measures of historic inflation

F. Grouping of items for index assignment.

1. Four alternatives were considered for grouping items and assigning indices to them. The method of grouping the items was critical to the success of this project. Since automation was necessary because of

the large number of items under consideration, various classification schemes were attempted.

2. The items in the AMDF file were first segregated by the managing MSC using the Item Manager Code (see Figure 1). Then each group of items was sorted in three ways (i.e. NSN, Materiel Category Code, nomenclature) to determine if subgroups could be defined to fit the available indices for that MSC.

a. Manual item by item assignment either by MSC personnel or by others requires that each item be examined and each individually assigned one of the available indices. While this method of assignment of indices may result in the least amount of misclassification, it was determined that the amount of time and effort required to do this for both initial methodology development and future updates was the greatest of all the alternatives. Also a degree of subjectivity in the classification is inevitable. Therefore manual assignment was rejected.

b. Automated assignment using the Materiel Category Structure. The Materiel Category Code (code structure may be seen in AR 710-1 [6]) is an alphanumeric code consisting of five segments or codes:

1st character	Materiel Category and Inventory Manager
2nd character	Appropriation and Budget Activity Account
3rd character	Management Inventory segment
4th character	Specific group/generic code
4th and 5th characters	Weapons system/end item identification code

Index assignment using the 4th or 4th and 5th characters (see Figure 2) of this code is generally applicable to specialized items such as bridging and railroad equipment but for many items these codes are not sufficiently specific for index assignment. The code will identify an item as being a spare or repair part managed by a specific MSC but identifies the end item

Codes 4th & 5th	Weapon System/ End Item
Tanks	
JD	Tank, Combat, 76MM Gun M41/M41A1/ M41A2/M41A3
JE	Tanks, 105/120MM, M1 (MBT 70)
JF	Tank, Combat, 120MM Gun, M103/M103A1/ M103A2 w/Trainer M119
JG	Tank Combat, 90MM Gun M47
JH	Tank, 105MM, M60A3 TTS
JJ	Tank, Combat, 105MM Gun M60/M60A1 M60A3/ M48A5
JK	Tank, Combat, 152MM Gun M60A2/and Trainer M37
JL	Trainer, Driving, M34 for M60 Tank Series
JM	Subcaliber Mount Assemblies Universal (M179) DVC-D 17-87 (Brewster)
JP	Combat Eng Vehicle FT M728
JQ	Armored/Reconn/Airborne Assault Vehicles 152MM M551 w/Trainer M40
JR	Simulator Tank Gunfire M4/M4A1 for M42 M48 M60 Tanks
JS	Bulldozer EM Tank Mounted M6/M8/M8A1/M8A2 M8A3/M9
JT	Recovery Vehicle M51/ M74/M88
JU	Gun Ft 90MM M56
JV	Recovery Vehicle M578
JW	Rifle, 106MM ONTOS M50/ M50A1
JZ	Miscellaneous Tanks
J9	Other Tank Multi-Application Parts
Combat Tactical and Support Vehicles Vehicular Components	
KA	Gun, Anti-Aircraft, SP 40MM M42/M42A1
KB	Howitzer, 105MM SP M7/ M7B1/M7B2
KC	Howitzer, SP 105MM M52/M52A1
KD	Gun Field Artillery SP 175MM M107 How 8" M110 Series
KE	Howitzer, Heavy FT SP 105MM M108
KF	Howitzer FT SP 155MM M109 Series
KG	Howitzer SP 155MM M44/M44A1
KH	Howitzer Heavy FT SP 8" M55 155 Gun M53
KL	Gun Anti-Aircraft 20MM SP XM163 (VADS) XM741 VULCAN Chassis
KN	Howitzer 155MM SP XM179
KZ	Miscellaneous Combat Vehicles
K9	Other Combat Vehicle Multi-Application Parts

FIGURE 2. 4TH AND 5TH CHARACTERS OF THE MATERIEL CATEGORY CODE

that the part is used in, e.g. tank type, without specifying whether it is a tool, engine or engine part or motor vehicle part. Since the MSC indices require a more detailed classification, the use of the Materiel Category Code was inappropriate in this application.

c. Automated assignment using nomenclature. The nomenclature provided with each AMDF record is generally sufficient for identifying an item with an index. Unfortunately the nomenclature is not sufficiently standardized to provide consistent automated assignments and therefore its use was also rejected as inappropriate.

d. Automated assignment using the Federal Supply Class (FSC). The FSC appeared to be the best vehicle for index assignment. AR 708-1 (7) lists 616 FSCs in 78 groups, an excerpt of which is shown in Figure 3. The FSC class title together with the commodity manager (MSC) for each item were used to assign an index to each FSC as follows.

(1) The indices for the responsible MSC were surveyed.

(2) If the FSC class title and MSC code indicated that one of these indices was appropriate, it was assigned to the FSC.

(3) If an appropriate index could not be identified, the indices from the other MSCs were surveyed and an index from these selected and assigned. The assignments may be seen in Figure 4. Once the indices were assigned, the appropriateness of the assignment was examined for all AVSCOM and TROSCOM items.

3. BEA Indices. The six BEA indices were assigned by combining MSC groupings. All aircraft and components were assigned the Aircraft index; all ammunition was assigned the Ammunition index; all communications, electrical, and electronic items were assigned the

Index

	FSC Class	Title	Army PICA/SICA
	1005	Guns, through 30mm	BF
	1010	Guns, over 30mm up to 75mm	BF
	1015	Guns, 75mm through 125mm	BF
10	1020	Guns, over 125mm through 150mm	BF
	1025	Guns, over 150mm through 200mm	BF
	1030	Guns, over 200mm through 300mm	BF
	1035	Guns, over 300mm	BF
	1040	Chemical Weapons & Equipment	BF
6	1045	Launchers, Torpedo & Depth Charge	BF
	1055	Launchers, Rocket & Pyrotechnic	BF
30	1070	Nets and Booms, Ordnance	CT
11	1075	Degaussing & Mine Sweeping Equipment	CT
30	1080	Camouflage & Deception Equipment	CT
6	1090	Assemblies Interchangeable Between Weapons in Two or More Classes	BF
10	1095	Miscellaneous Weapons	BF
	1105	Nuclear Bombs	BF
	1110	Nuclear Projectiles	
	1115	Nuclear Warheads & Warhead Sections	BF
	1120	Nuclear Depth Charges	BF
	1125	Nuclear Demolition Charges	BF
	1127	Nuclear Rockets	BF
6	1130	Conversion Kits, Nuclear Ordnance	BF
	1135	Fuzing & Firing Devices, Nuclear Ordnance	BF
	1140	Nuclear Components	BF
	1145	Explosive & Pyrotechnic Components, Nuclear Ordnance	BF
	1190	Specialized Test & Handling Equipment, Nuclear Ordnance	BF
	1195	Miscellaneous Nuclear Ordnance	BF
	1210	Fire Control Directors	BF
	1220	Fire Control Computing Sights and Devices	BF
	1230	Fire Control Systems, Complete	BF
	1240	Optical Sighting & Ranging Equipment	BF
	1250	Fire Control Stabilizing Mechanisms	BF
	1260	Fire Control Designating & Indicating Equipment	BF
9	1265	Fire Control Transmitting & Receiving Equipment, except Airborne	BF
	1270	Aircraft Gunnery Fire Control Components	BF
	1280	Aircraft Bombing Fire Control Components	BD
	1285	Fire Control Radar Equipment, except Airborne	BF
	1287	Fire Control Sonar Equipment	BF
	1290	Miscellaneous Fire Control Equipment	BF
8	1305	Ammunition, through 30mm	BF
	1310	Ammunition, over 30mm up to 75mm	BF
7	1315	Ammunition, 75mm through 125mm	BF
	1320	Ammunition, over 125mm	BF
	1325	Bombs	BF
6	1330	Grenades	BF
	1336	Guided Missile Warheads & Explosive Components	BD
	1337	Guided Missile & Space Vehicle Explosive Propulsion Units, Solid Fuel & Components	BD
12	1338	Guided Missile & Space Vehicle Inert Propulsion Units, Solid Fuel & Components	BD
	1340	Rockets, Rocket Ammunition & Rocket Components	BF
	1345	Land Mines	BF
	1350	Underwater Mine Inert Components	BF
6	1351	Underwater Mine Explosive Components	BF
	1355	Torpedo Inert Components	BF
	1356	Torpedo Explosive Components	BF
	1360	Depth Charge Inert Components	BF

FIGURE 3. SAMPLE FSC LISTING

INDEX SET	ITEM TYPE	FSCs USING INDEX					
1	AIRFRAME	1560-1730					
2	AIRCRAFT ENGINES	2835-2840	2915	2925	2935	2945	2995
3	AVIONICS	6605-6620					
4	AIR VEHICLES LESS AVIONCS	1540-1550					
5	AIR VEHICLES WITH AVIONCS	1510-1520	1810-1960				
6	COMBINED ORD & ACCESSORS	1040-1055	1090	1105-1195	1325-1330	1345-1398	6920
7	AMMUNITION OVER 30mm	1310-1320					
8	AMMUNITION UNDER 30mm	1305					
9	SIGHTING & FIRE CONTROL	1210-1290	6650				
10	RIFLES REPTNG CENTER FIRE	1005-1035	1095				
11	COMMO & ELECTRONICS	1075	5805-6080	6116-6350	6625	6636	6645
		6655	6695-6780	6040	7010-7050		
12	MISSILES PROCUREMENT	1336-1340	1410-1430	2845			
13	MISSILE GRND SUPPORT	1440-1450					
14	COMB GRND SPT & MISSILES	NONE					
15	CONSTRUCTION EQUIPMENT	3805-3895					
16	INTERNAL COMBST ENGINE	2805-2815	2850-2910	2920	2930	2940	2950-2990
17	MOTOR VEHICLE PARTS	2510-2590	3010-3030				
18	TOOLING	4910-5280					
19	TACTICAL VEHICLES	2305-2350					
20	OTHER WTCV	2410-2430	2610-2640				
21	COLLAPSIBLE TANKS	5430					
22	AIR CONDNRS - HEATERS	4010-4140	4520-4540				
23	AVL BRDG/TANKS/OTHER	5420					
24	POWER PLANT	4410-4510	4610-4630				
25	FIREFIGHT EQP/FORKLIFTS	1740	3910-4030	4210-4240			
26	PUMPS/COMPRESSORS	4310-4330					
27	THEO/TBL EQP/SURVEY INS	6675					
28	GENERATRS/LIGHT SETS/UTIL	6105-6115					
29	RAILROAD EQUIPMENT	2210-2250					
30	OTHER TROOP SUPPORT EQP	1070	1080	1905-1990	2010-2090	2820-2830	3040-3770
		4710-4820	5305-5411	5440-5680	6630-6635	6660-6670	6680-6685
		6810-6910	6930	7105-8475	9310-9390		
NA	NON-REPARABLES	6505-6545	8510-9160	9410-9999			

FIGURE 4. MSC INDEX ASSIGNMENTS TO FSCs

Electronic Equipment index; all missiles and components were assigned the Missile index; all wheeled and tracked vehicles and components were assigned the Vehicle index; all other items were assigned the Other Equipment index. Index assignments may be seen in Figure 5.

4. OSD Indices. For the two OSD indices, assignment to items was relatively straight forward. The listing of MSC indices assigned to the FSCs was screened. All index codes for aircraft and components, missiles and components, and wheeled/tracked combat vehicles (WTCV) and components were assigned the Missile/Aircraft/(WTCV) procurement index. All other items were assigned the Ammunition/Communications and Electronics/Other procurement index. Assignment of an index using manual methods or nomenclature were not applicable to these indices for the same reasons that they were rejected for the MSC indices. Assignment using either the Materiel Category Code or FSC is possible for these two indices but since assignment by FSC appeared to provide a more descriptive classification it was selected for this set. Index assignments may be seen in Figure 5.

G. Index Evaluation for Updating Prices.

1. The data on a magnetic tape of AVSCOM and TROSCOM past procurements was analyzed using a program that selected pairs of consecutive procurements or purchases of an item. The basic procedure was to use consecutive purchases of the same item to evaluate the accuracy of each index set. The estimated price was computed by using the appropriate index to update the earlier procurement price to the time of the next procurement. The actual price is then the next procurement price. The error involved is thus the difference between the estimated and the actual price. This was done for all the selected procurements for that item. To

Index Codes and Titles		
MSC	BEA	OSD
AIRFRAME PRODUCTION ENGINE PRODUCTION AVIONICS PRODUCTION AIR VEHICLES LESS AVIONICS AIR VEHICLES WITH AVIONICS	AIRCRAFT	MISSILES/ AIRCRAFT/ WHEELED TRACKED/ COMBAT VEHICLES
MISSILE PROCUREMENT GROUND SUPPORT EQPMT	MISSILES	
CONSTRUCTION EQPMNT VEHICLE ENGINES MOTOR VEHICLE PARTS TOOLING TACTICAL VEHICLES OTHER WTCV	VEHICLES	
AMMUNITION OVER 30mm AMMUNITION UNDER 30mm	AMMUNITION	
COMMUNICATIONS AND ELECTRONICS	ELECTRONIC EQUIPMENT	
COMBINED ORDNANCE AND ACCESSORIES SIGHTING AND FIRE CONTROL RIFLES, REPEATING, CENTER FIRE COLLAPSIBLE TANKS AIR CONDITIONERS, HEATERS ALL BRIDGING POWER PLANT FIRE FIGHTING EQMNT, FORKLIFTS PUMPS, COMPRESSORS THEODOLITES, SURVEY INSTRUMENTS GENERATORS, LIGHT SETS RAILROAD EQPMNT ALL OTHER ITEMS	OTHER EQUIPMENT	AMMUNITION/ COMMUNICATIONS/ OTHER PROCUREMENT

FIGURE 5. OSD AND BEA INDEX ASSIGNMENTS

effectively compare and combine errors occuring at different times, the GNP index was used to translate the error into constant dollars of a particular base period.

2. A model was developed. The model was designed to evaluate each index and index set for its ability to accurately update prices by analyzing the prediction error defined above. A filter (discussed later) was incorporated to logically discard certain pairs of prices. Various measures of prediction accuracy and variability were applied. The model was implemented on the Burroughs 6800. The computer program was written in the Burroughs version of FORTRAN IV. (The Burroughs FORTRAN 77 did not have a bit manipulation ability and thus could not be used to unpack the packed number fields in the data tape. The FORTRAN 77 was used however as a preprocessor, to convert variable length records into a fixed size record readable in FORTRAN IV.)

3. Inflation indices used.

a. Daily inflation rates. The index set values were taken from The DARCOM Historical Inflation Report Through FY 1982, (6). In that report, most of the indices are listed with their compounded values, computed so that the index corresponding to the base year FY82 has the value 1.00. A listing of these values is in Appendix B. For use in the model, the yearly inflation rates were converted to daily inflation rates.

b. Assignment of indices. For each item, the FSC is first noted. The FSC designation is then used to determine the MSC index, see Appendix C. The MSC index is used to determine the BEA index, which in turn determines the OSD index (see Figures 4 and 5 above).

c. The MSC, OSD, and GNP indices begin with FY68 whereas the BEA indices begin with FY73. For the time periods beginning prior to FY73, a combined OSD/BEA index was created. This combined index has the same categories as the BEA indices. For each category, the combined inflation rate is the BEA rate for the periods after FY73 and is the rate for the corresponding OSD category for the periods prior to FY73.

d. For completeness, each item also had associated with it the GNP index (i.e. the GNP Implicit Price Deflator) and the constant index 1.ØØ (no updating). Thus six potential updating index sets can be applied to most items (MSC, BEA, BEA/OSD, OSD, GNP, NO UPDATING). The pure BEA index was only used for comparing estimated and actual prices when both procurements occured in FY73 or later. For uniformity, items with no assigned FSC or with an FSC that did not fall into one of the MSC index sets, were not processed. Thus each processed price comparison involved five or six index sets.

4. Price data. The price data was obtained from a magnetic tape copy of the Procurement History Record (PHR) file from TSARCOM (AVSCOM and TROSCOM items). The file has two types of records. A header record (called sector Ø) contains the National Item Identification Number (NIIN). Following each header record are the price records (sector 1) for that item. Each price record contains:

effective contract date	(DATE)
unit price	(UPRICE)
quantity	(QTY)
Federal Supply Class	(FSC)

as well as fields, such as contractor identification, which were not used in

this analysis. The DATE, UPRICE, and QTY are packed number fields; the NIIN and FSC are alphanumeric fields. The header records (with their trailing price records) are sorted by NIIN. The price records for each item appear in reverse chronological order. The header does not indicate repair status (depot maintenance, throw-away etc.) of the item. The price record does not indicate whether the procurement quantity was for an economic order quantity (EOQ).

5. Various filter criteria were developed. Selected procurement prices were discarded as were certain entire item procurement histories. These filters are described below.

a. Some of the price records had UPRICE equal to $0.01. For a sequence of procurements of the same item, these prices appeared between prices substantially higher. It seemed clear that UPRICE of $0.01 indicated that the true price was unknown. Thus these price records should not be included in the analysis. A variable UMIN was defined, so that a price record was discarded if UPRICE < UMIN. The value of UMIN was usually set at 1.00.

b. As noted above, the price record does not indicate if an economic order quantity was procured. A price index system cannot be expected to predict a future price from a past price when one of the prices is for an EOQ and the other is not. As a surrogate for an EOQ indicator, a variable EOQ filter was constructed. Thus a quantity was considered as non-EOQ if, for the paired procurements under investigation, it was substantially smaller than the other quantity and its corresponding price was substantially higher than the other price. In particular, variables QRATIO and URATIO were defined so that if,

QTY1/QTY2 > QRATIO and UPRICE2/UPRICE1 > URATIO

then QTY2 was considered as non-EOQ and so price record 2 was discarded. In the model, an array FILT was defined which contained the URATIO and QRATIO variables as well as an indicator for turning the EOQ filter on and off.

c. The PHR file has instances of consecutive price records in which the quantities are approximately equal but the prices are vastly different. In many of these cases the price differences are clearly caused by factors other than price growth due to time. An index updating system cannot be expected to predict such price fluctuations. Hence another filter was built to eliminate these fluctuations. A value GRATIO was set, so that if the ratio of prices (updated via GNP) exceeded the GRATIO value, then the price record with the larger price was discarded. The GRATIO variable was actually contained in the array FILT and usually was set to 3.Ø.

d. Only items whose maximum price fell within a specified price band were considered. Thus a two dimensional variable UMAXØ was defined so that the price history of an item was used only if the maximum (non-updated) UPRICE fell between UMAXØ(1) and UMAXØ(2).

e. The index updating system will only be used to update prices for items which have had no recent procurements. Thus a filter was constructed to eliminate comparisons of prices from procurements that were less than a given time period apart. In most runs this time period was set at 365 days. Prices with the same date were neither compared nor eliminated. If an item had more than one UPRICE for a given DATE, the weighted average price was computed and used.

f. The resulting computer program has a long running time. To process the entire PHR tape (one reel) total Central Processing Unit time was about 2 hours and total elapsed time was up to 10 hours. To run the program during development and for the sensitivity analysis runs (with different values for the various filter variables), a sampling rate variable, NBLOKS(1), was introduced. NBLOKS(1)=1, produced an analysis of the entire tape. NBLOKS(1)=10, analyzed one tenth of the data, (one out of each ten blocks of data was processed).

6. Measurements computed. For each index and each index set (MSC, BEA, BEA/OSD, OSD, GNP, NO UPDATING) various measurements were computed. Some were measures of index (set) accuracy or variability. Other measures were descriptive of the data to which the index was applied - for example the total item quantity and the average price of items to which the index was applied.

a. Measures of index accuracy.

(1) Results of measures of index accuracy are summarized in Table 3, in the "Results" section of this report. The entries are explained below.

(2) Mean weighted dollar error (see column A in Table 3). Each dollar error,

ERROR = UPRICE1 (updated) - UPRICE2

was first converted via the GNP index into constant FY84 dollars, and then weighted by the quantity of the second procurement. In effect the error (in constant dollars) was assigned to each individual item procured. Hence the mean weighted error was the average dollar error per item (for that index).

(3) Mean unweighted error percentage (see column B in Table 3). The error percentage

$$\text{PERCENTAGE} = 100 \times \text{ERROR} / \text{UPRICE2}$$

was assigned to each valid pair of consecutive procurements of the same item. (A pair of procurements was considered valid if it was not filtered out by one or more of the filter criteria discussed above.) Then the mean unweighted error percentage was

$$\sum \text{PERCENTAGE} / N$$

where N was the number of price updates performed with the index - i.e. the number of valid pairs of consecutive procurements. Note that neither the unit price nor the quantity of the items procured affected this measure.

(4) Mean dollar weighted error percentage (see column C in Table 3). Each error percentage, as defined above, was weighted by the total constant dollars of the second procurement. This weighing factor was

$$\text{DOLLARS} = \text{UPRICE2} \times \text{QTY2} \times \text{UPDATE FACTOR}$$

where the UPDATE FACTOR used the GNP index to convert into constant 1984 dollars. Thus the weighted mean was defined as

$$\sum \text{DOLLARS} \times \text{PERCENTAGE} \; / \; \sum \text{DOLLARS}$$

(5) Dollar distribution of absolute error percentage (see columns E,F,G in Table 3). This measure answered the question: how many (relative) dollars were spent on procurements with index error within a certain bound. In particular, what percent of total dollars were spent on procurements with prediction errors less than 10%, 20%, or 30%. For example, in column G of Table 3, the number 76 under the column heading "+/- 30%" indicates that 76% of the (constant) dollars were spent on

procurements in which the error percentage (based on no updating) ranged between -30% and +30%.

b. Measures of variability.

(1) Weighted dollar error standard deviation. The standard deviation of the dollar error weighted by quantity. This standard deviation (as well as those that follow) was computed via the statistical definition of standard deviation. Viz, the (weighted) variance was the difference between the expected value of the square of the error and the square of the expected value (mean) of the error. Then the standard deviation was the square root of the variance. If MEAN is the (weighted) mean value, then an algebraically equivalent formulation is

$$\text{VARIANCE} = \frac{\sum (\text{ERROR} - \text{MEAN})^2 \times \text{QTY2}}{\sum \text{QTY2}}$$

(Note that both the ERROR and MEAN, and thus the variance and standard deviation, are in constant dollars.)

(2) Unweighted error percentage standard deviation. The standard deviation of the unweighted error percentage.

(3) Dollar weighted error percentage standard deviation (see column D in Table 3). This standard deviation was computed in the same manner as the quantity weighted dollar error standard deviation. (In the formula above replace mean weighted dollar error by the mean dollar weighted error percentage, and replace quantity by dollars).

(4) Dollar distribution of the error percentage. A cumulative frequency table was developed to display the proportion of total dollars spent on procurements with prediction error less than a given

percentage. Note that the error percentage can vary from -100% to plus infinity. The cumulative frequency table ranges from -100% to +200%. To illustrate how this table was developed, a value of 14 in line 49 (GNP) of Table 5, under the error percentage column, -20, indicates that if the GNP index had been used to update prices, then 14% of the total dollars would have been spent on reprocurements with price prediction errors from - 100% to -20%. (Total dollars refers to the total number of constant - i.e. FY84 - dollars spent on valid reprocurements of items to which the given index applies. Of course "valid" reprocurements are those that meet all the filter specifications - EOQ qualifications, dollar band membership, minimum time between reprocurements, etc.)

c. Other explicit measures.

(1) Quantity. This is the total item quantity among all the valid procurements of items subjected to the index.

(2) Number. The number of valid pairs of consecutive procurements of items subjected to this index.

(3) Mean unit price. The mean of the quantity weighted unit price, viz.

$$\text{UPRICE2} \times \text{QTY2} \;/\; \sum \text{QTY2}$$

where UPRICE2 is in constant dollars. (Note that the mean dollar weighted error percentage is 100 times the ratio of the mean dollar error and the mean unit price.)

(4) Unit price standard deviation. The standard deviation of the quantity weighted unit price.

d. Derived measures. Various other measures are derivable from combinations of the previous measures. For example the total

dollars spent on reprocurement (of items' subject to the index) is the product of the mean unit price and the total quantity. The number of FY84 constant dollars spent on reprocurements with given prediction error is the product of the total dollars and the percent of dollars spent with the given error percentage (divided by 100).

7. Results.

a. A summary of the output results are in Table 3. For illustration, Tables 4 and 5 list output results of a full sample computer run. Here, items with a maximum (non-updated, i.e. current dollar) unit price of at least $500 were included. The economic order quantity filter was on. Prices were discarded if, in constant dollars, they were at least three times as large as the price in a consecutive procurement. Procurements were discarded if they were less than a year before the next procurement.

b. According to most of the accuracy measures, the non-updating alternative resulted in substantially more error than any of the other updating procedures. The only exception is the measure which used the percent of total dollars with error within plus or minus 10%. Under this measure the no-updating procedure is only marginally, not substantially, worse than the GNP index procedure. Under all the other accuracy measures, no-updating was substantially worse than every one of the index updating procedures.

c. The variabilities of the updating procedures (including the no-updating alternative) were all about the same. The standard deviations of the dollar weighted error percentages are all approximately 20%.

d. All the index updating procedures resulted in approximately the same accuracy. Compared to the other indices, the GNP weighted error percentage is slightly higher in absolute value, but its unweighted error percentage is slightly lower.

TABLE 3

SUMMARY OF OUTPUT RESULTS

Procedure	Dollar Error (mean) A	Unwghtd % Error (mean) B	Dollar-weighted Percentage-Error (mean) C	(st devn) D	Percent-of-Dollars with-Maximum-Error +-10% E	+-20% F	+-30% G
MSC INDEX	-$35	2.73	-1.74	20.13	44	74	91
BEA INDEX	-$41	2.50	-2.49	20.28	45	73	89
BEA/OSD	-$55	1.36	-2.78	19.50	51	76	90
OSD INDEX	-$55	1.00	-2.76	19.42	48	76	90
GNP INDEX	$72	-0.46	-3.61	20.02	42	78	88
NO UPDATING	-$314	-15.18	-15.77	20.55	37	57	76

e. The GNP is the preferred index. It had approximately the same accuracy and variability as the other indices. It is easier to use - for each year there is only one GNP factor; for each other index set there are from 2 to 29 factors. There is substantially less probability of improper application of the GNP index than for any of the other index sets - again since there is only one factor for each year.

TABLE 4. INDEX EVALUATION RESULTS - ERROR STATISTICS

CMND: TSAR ,TAPE: PNR UP> 1.00 500.00<MAX$<••••••••• EDD FILT ON (RATIOS: G= 2.0,$= 1.3; G$= 3.0) MIN 365 DAYS, BLOCKS 1(+1)

INDEX NAME	UNIT PRICE ERROR MEAN	UNIT PRICE ERROR STD-DEV	UNIT PRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1 AIR FRAME	$-12.90	$940.69	561269	1.40%	33.35%	6004	$1625.29	$4393.85	-0.79	23.54
2 AIRCRAFT ENGINE	$-160.42	$3709.11	199990	1.23%	29.20%	1540	$2923.55	$26327.47	-5.49	17.95
3 AVIONICS	$-2.39	$186.56	421195	-1.91%	27.90%	257	$120.30	$848.76	-1.99	23.16
4 AIR VEH EXCL AVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5 AIR VEH INCL AVIONC	$-3857.31	$15364.01	2514	-4.06%	14.05%	29	$483827.44	$619530.07	-0.80	14.89
6 COMBIN ORD &ACCESR	$33.80	$236.34	341	-18.23%	23.73%	3	$1230.22	$162.81	2.75	20.57
7 AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8 AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9 SIGHT & FIRECONTRL	$1362.77	$1815.01	77	24.86%	30.05%	5	$5810.01	$1242.14	23.46	27.53
10 RIFL REP CENTRFIRE	$54.71	$36.57	504	6.99%	18.78%	6	$227.81	$84.87	24.01	16.90
11 COMMO & ELECTRONIC	$13.12	$184.30	98200	4.36%	31.76%	330	$251.16	$716.68	5.22	26.81
12 MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13 MISSIL GRND SPT EQ	$-5.45	$98.69	74	1.27%	20.89%	6	$281.38	$449.18	-1.94	21.70
14 COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15 CONSTRUCTION EQUIP	$-101.55	$1017.20	557	7.94%	24.41%	30	$4776.72	$5478.04	-2.13	16.47
16 INTRNAL COMBST ENG	$-40.91	$189.17	125585	1.40%	25.39%	275	$1190.09	$1363.40	-3.44	12.69
17 MOTOR VEH PARTS	$-64.63	$476.22	12927	1.16%	32.18%	230	$989.12	$1595.05	-6.53	30.01
18 TACOM - TOOLING	$219.04	$3913.10	20999	10.38%	40.83%	1244	$3605.73	$14661.53	6.07	31.42
19 TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20 OTHER WHL/TR/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21 COLLAPSIBLE TANKS	$6.68	$876.07	12788	2.91%	27.72%	35	$4183.31	$3024.86	0.16	28.40
22 AIR COND - HEATERS	$4.41	$1049.40	14674	1.64%	32.22%	149	$3206.23	$3232.10	0.14	21.85
23 AVL BRDG/TANK/OTHR	$-850.69	$13190.53	20591	6.97%	39.72%	159	$6658.95	$57682.39	-12.78	19.90
24 POWER PLANT (NUST)	$-3871.54	$6963.74	905	-5.90%	18.38%	67	$25890.07	$31761.01	-14.95	12.19
25 FIREFIGHT/FRALF TRK	$-505.68	$7654.16	2156	3.79%	27.76%	71	$16655.08	$38072.85	-3.04	17.75
26 PUMPS/COMPRESSORS	$38.70	$485.63	18639	4.64%	36.08%	225	$1331.50	$1900.96	2.91	23.64
27 THEO/TDL E/SURV IN	$-197.53	$1867.06	4464	12.98%	36.87%	78	$2526.86	$10971.09	-7.82	19.90
28 GEN/LIGHT SETS/UTL	$-229.53	$2070.63	107196	0.35%	25.01%	418	$3778.88	$9177.85	-6.07	17.43
29 RAILROAD EQUIPMENT	$15870.81	$41779.22	384	6.64%	33.52%	43	$59931.64	$69699.80	26.48	24.99
30 OTHER TRP SPT ITEM	$42.72	$647.09	416023	4.06%	34.25%	1324	$630.13	$2330.92	6.78	22.17
31 BEA - AVIATION	$-56.94	$5140.49	753180	1.97%	33.13%	4539	$1754.13	$33150.61	-3.25	18.79
32 BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33 BEA - ELECTRONICS	$17.47	$139.13	90732	4.50%	35.66%	216	$188.45	$437.86	9.27	29.54
34 BEA - MISSILES	$-93.21	$0.00	6	-12.67%	0.00%	1	$735.86	$0.00	-12.67	0.00
35 BEA - VEHICLES	$130.47	$1749.95	57036	8.55%	37.98%	980	$1782.67	$3441.43	7.32	31.79
36 BEA - OTHER EQUIP	$-46.73	$2866.58	443229	0.13%	29.92%	1660	$1686.07	$13656.02	-2.77	20.11
37 BEA/OSD AVIATION	$-82.03	$5253.06	1184968	0.23%	32.58%	7830	$2332.48	$37875.81	-3.52	17.73
38 BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39 BEA/OSD ELECTRONIC	$12.56	$192.83	98200	3.07%	32.18%	330	$251.16	$716.68	5.00	28.78
40 BEA/OSD MISSILES	$-15.25	$86.81	74	-3.70%	19.80%	6	$281.38	$449.18	-5.42	19.35
41 BEA/OSD VEHICLES	$2.18	$1752.00	168068	7.00%	37.44%	1779	$1603.32	$6297.30	0.14	24.33
42 BEA/OSD OTHR EQUIP	$-29.88	$2647.46	598742	0.70%	31.64%	2583	$1710.79	$12291.59	-1.75	22.03
43 OSD-MSLS/ACFT/WTCV	$-63.33	$6358.69	1353110	1.11%	32.57%	9615	$2241.80	$35514.72	-2.82	18.36
44 OSD-AMMO/CE/OTHER	$-38.92	$2560.16	696942	0.66%	31.42%	2913	$1505.13	$11407.27	-2.59	22.15
45 M S C INDICES	$-34.70	$5764.67	2050052	2.75%	33.36%	12528	$1991.36	$29611.84	-1.74	20.13
46 BEA (ONLY) INDICES	$-40.59	$4201.05	1344183	2.50%	33.30%	7396	$1627.21	$26037.19	-2.49	20.28
47 BEA/OSD INDICES	$-55.36	$4272.22	2050052	1.36%	33.19%	12528	$1991.36	$29611.84	-2.78	19.50
48 O S D INDICES	$-55.03	$5377.33	2050052	1.00%	32.31%	12528	$1991.36	$29611.84	-2.76	19.42
49 G N P	$-71.84	$5042.51	2050052	-0.46%	31.80%	12528	$1991.36	$29611.84	-3.61	20.02
50 NO UPDATING	$-314.06	$6875.12	2050052	-15.18%	28.93%	12528	$1991.36	$29611.84	-15.77	20.55

TABLE 5. INDEX EVALUATION RESULTS - ERROR DISTRIBUTIONS

CMND: TSAR ,TAPE: PMR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS:Q= 2.0,S= 1.3;GS= 3.0) MIN 365 DAYS,BLOCKS 1(+1)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	42	71	85	0	0	1	3	7	16	33	54	75	87	92	94	97	99	99	99	99	99	99
2	AIRCRAFT ENGINE	57	74	90	0	0	2	3	6	20	28	73	86	94	97	98	99	99	99	99	99	100	100
3	AVIONICS	15	50	86	0	0	0	4	11	24	43	67	59	74	97	98	99	99	99	99	99	99	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	39	85	100	0	0	0	0	0	3	33	63	73	88	100	100	100	100	100	100	100	100	100
6	COMBIN GND &ACCESR	0	79	87	0	0	0	12	12	20	20	20	20	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	58	58	58	0	0	0	0	0	0	0	0	58	58	58	84	84	84	100	100	100	100	100
10	RIFL REP CENTRFIRE	8	18	18	0	0	0	0	0	0	10	12	18	18	18	99	99	99	99	99	99	99	99
11	COMMO & ELECTRONIC	44	70	78	0	0	2	4	7	11	18	43	63	81	85	88	95	96	99	99	99	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	13	59	86	0	0	0	0	0	26	47	53	61	86	86	100	100	100	100	100	100	100	100
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	29	87	89	0	0	3	0	2	4	46	53	75	91	92	98	99	99	100	100	100	100	100
16	INTRNAL COMBST ENG	84	87	88	0	0	0	0	11	11	13	47	97	98	99	99	99	99	99	99	99	99	100
17	MOTOR VEH PARTS	32	55	76	0	0	9	15	17	30	43	57	75	85	94	96	98	98	99	99	99	99	100
18	TACOM - TOOLING	22	55	79	0	0	1	3	11	13	29	40	52	69	91	95	96	98	98	98	98	98	99
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	39	81	93	0	0	0	0	0	12	43	51	82	94	94	95	95	95	99	99	99	99	99
22	AIR COND - HEATERS	36	65	85	0	0	0	4	5	9	34	51	70	74	90	98	98	99	99	99	99	99	99
23	AVL BRDG/TANK/OTHR	11	39	93	0	0	3	5	5	54	73	74	85	94	99	99	99	99	99	99	99	99	99
24	POWER PLANT (MUST)	35	54	99	0	0	0	0	0	44	63	98	99	99	99	99	99	100	100	100	100	100	100
25	FIREFINT/FWALF TRK	70	77	85	0	0	1	1	13	17	18	33	89	95	99	99	99	99	99	99	99	99	99
26	PUMPS/COMPRESSORS	35	59	87	0	0	0	1	6	22	28	39	63	82	94	95	95	99	99	99	99	99	99
27	THEO/TBL E/SURV IN	8	74	89	0	0	1	1	8	13	69	74	78	87	97	98	98	99	99	99	99	99	99
28	GEN/LIGHT SETS/UTL	49	69	93	0	0	1	1	5	22	30	69	79	92	99	99	99	99	99	99	100	100	100
29	RAILROAD EQUIPMENT	25	26	93	0	0	0	0	0	0	0	20	25	26	93	93	93	93	93	100	100	100	100
30	OTHER TRP SPT ITEM	44	76	85	0	0	1	2	4	7	16	26	60	83	90	95	95	99	99	99	99	99	99
31	BEA - AVIATION	49	78	90	0	0	0	2	5	14	32	58	82	92	95	97	99	99	99	99	99	99	99
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	30	64	78	0	0	1	2	4	14	26	36	57	79	92	84	94	95	99	99	99	100	100
34	BEA - MISSILES	0	100	100	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100
35	BEA - VEHICLES	31	50	77	0	0	1	2	3	21	24	35	56	72	80	95	97	98	98	98	98	98	99
36	BEA - OTHER EQUIP	41	68	89	0	0	0	1	5	17	34	62	75	86	94	98	98	99	99	99	99	99	99
37	BEA/OSD AVIATION	56	79	92	0	0	0	2	4	14	30	56	87	94	96	98	99	99	99	99	99	99	99
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	39	66	78	0	0	3	5	7	15	25	42	64	82	85	88	95	96	99	99	99	100	100
40	BEA/OSD MISSILES	24	59	86	0	0	0	0	0	26	61	61	86	86	86	99	99	99	99	99	99	99	99
41	BEA/OSD VEHICLES	46	73	85	0	0	1	1	5	13	32	45	79	86	90	97	98	99	99	99	99	99	99
42	BEA/OSD OTHR EQUIP	40	67	87	0	0	1	2	6	17	32	58	73	85	93	98	98	99	99	99	99	99	100
43	OSD-MSLS/ACFT/WTCV	51	78	91	0	0	0	2	5	11	33	56	84	90	97	98	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	41	69	86	0	0	1	2	7	19	34	59	75	88	93	97	98	99	99	99	99	99	99
45	M S C INDICES	44	74	91	0	0	1	2	4	14	31	59	76	88	96	97	98	99	99	99	99	99	99
46	BEA (ONLY) INDICES	45	73	89	0	0	0	2	5	16	33	58	79	89	94	97	98	99	99	99	99	99	99
47	BEA/OSD INDICES	51	76	90	0	0	0	2	5	15	31	55	83	91	95	97	98	99	99	99	99	99	99
48	O S D INDICES	48	76	90	0	0	0	2	5	13	33	57	82	49	96	98	98	99	99	99	99	99	99
49	G N P	42	78	88	0	0	1	2	7	14	36	57	78	92	96	98	98	99	99	99	99	99	99
50	NO UPDATING	37	57	76	0	0	5	12	22	39	56	82	94	97	98	99	99	99	99	99	99	99	100

8. Sensitivity Analysis.

a. A sensitivity analysis was performed to assess the impact of the various filter parameters. Since each full computer run took up to 10 hours of elapsed time, the sensitivity analysis runs were performed on the same 10% data samples. The sampling processed every tenth data block on the PHR tape. Table 6 has a summary of the sensitivity results. Table 7 contains descriptions and definitions of the parameters that were analysed.

b. To assess the affect of the sampling technique itself on the output results, three different sample runs were performed with the filter parameters held constant. To ensure that the three data samples were disjoint, the three runs began the data processing at three different data blocks. From Table 6 it can be seen that samples 1+10 and 5+10 (lines 1 and 2) have slightly more negative error percentages and sample 2+10 (line 15) had slightly less negative error percentages than those coming from the full run (line 3). (See Table 7 for definitions of "sample 1+10" notations.) All the subsequent sensitivity runs were performed on the 2+10 data sample. Results from these runs should be compared to those from run 15 to assess the parameter affects.

c. Three sample runs were performed to assess the affect of varying the allowable maximum unit prices. The full computer run processed items with maximum unit price greater than $500. The sample runs processed items with maximum unit price respectively greater than $5000, greater than $1000, and between $100 and $5000. The three runs with maximum price greater than $500, $1000, and $5000 respectively (runs 15,5,4) have similar values for the weighted mean error percentages and for

TABLE 6

SENSITIVITY ANALYSIS RESULTS

RUN	CONDITIONS*							TYPE OF INDEX SET		
	SAMPLE RATE	PRICE RANGE	GRATIO	EOQ	QRATIO	URATIO	MIN DAYS	NONE	GNP	MSC
1	1÷10							-20.0 (16.7)	-7.5 (17.7)	-5.5 (15.5)
2	5÷10							-21.2 (24.0)	-6.0 (21.3)	-5.2 (21.8)
3	FULL							-15.8 (20.6)	-3.6 (20.0)	-1.7 (20.1)
4		$5000<$MAX						-14.2 (15.8)	-1.9 (15.7)	0.1 (17.9)
5		$1000<$MAX						-14.0 (17.8)	-1.6 (18.6)	0.4 (19.9)
6		$100<$MAX<$5000						-12.7 (26.8)	0.0 (30.0)	2.4 (29.1)
7			2					-14.0 (15.8)	-1.7 (15.7)	0.4 (17.7)
8			INFINITY					-13.9 (20.8)	-1.5 (21.9)	0.4 (22.8)
9				OFF				-13.1 (40.6)	-0.5 (72.2)	1.5 (92.7)
10					3			-13.9 (18.1)	-1.5 (19.0)	0.4 (20.2)
11						1.5		-13.7 (18.1)	-1.3 (19.1)	0.6 (20.2)
12						2.0		-13.5 (18.2)	-1.1 (18.9)	0.9 (20.4)
13							0	-7.7 (19.3)	0.6 (18.4)	1.9 (19.2)
14							167	-9.0 (19.9)	1.2 (19.3)	2.8 (20.1)
15							365	-13.9 (17.9)	-1.6 (18.7)	0.4 (20.0)
16							500	-18.5 (19.5)	-3.9 (20.4)	-2.0 (23.0)

* blank represents default value (see TABLE 7)

TABLE 7

PARAMETER DEFINITIONS

PARAMETER	DESCRIPTION	DEFAULT
sample a+b	process blocks a, a+b, a+2b, etc	a+b = 2+10
A< $MAX <B	maximum item uprice is between A and B	500 < $MAX <infinity
EOQ = ON	if-EOQ = ON, then discard if UPRICE1/UPRICE2 > URATIO	EOQ = ON
URATIO	and QTY2/QTY1 > QRATIO	URATIO = 1.3
	or	
QRATIO	UPRICE2/UPRICE1 > URATIO	QRATIO = 2.0
	and QTY1/QTY2 > QRATIO	
	also discard if	
GRATIO	UPRICE1/UPRICE2 > GRATIO	GRATIO = 3.0
	or UPRICE2/UPRICE1 > GRATIO	
E DAYS MIN	discard procurements < E days apart	E = 365

the relative dollars spent at 10%, 20%, and 30% error. However, the low dollar band ($100 to $5000 i.e. run 6) showed higher weighted mean error percentages and less dollars spent at the 10%, 20%, and 30% errors. Thus the various indices seemed to be less accurate on the low dollar value items. Also, these items produced more variability (standard deviations of about 30%) than the unbounded dollar bands of items. Finally, it also should be noted that for the $100 to $5000 items, the GNP index seemed to be the most accurate index set (for example the GNP index weighted mean error percentage is very close to zero).

d. The full run had a value of 3 for the gross ratio parameter GRATIO. (That is, if the ratio of two consecutive prices was greater than 3, then the higher price was discarded.) Sample runs were performed with GRATIO = 2 and GRATIO = infinity. The weighted means were little affected, but the standard deviation increased moderately as the GRATIO value was increased. This affect was expected since increasing the value of GRATIO allowed more wildly fluctuating prices to be processed.

e. Four sample runs were performed to assess the affect of the EOQ filter. Varying the EOQ parameters URATIO between 1.3 and 2.0 and QRATIO between 2 and 3 did not have any significant effect. Turning the EOQ filter off did not substantially affect the weighted error percentage means but it did enormously increase the standard deviations (as well as the unweighted mean error percentage).

f. The full run processed consecutive procurements with a minimal time gap of at least 365 days. Sample runs were performed with minimum time gaps of respectively ZERO, 167, and 500 days. Among the error percentage weighted means, the no-updating mean varied approxi-

mately linearly with the minimum time gap (see figure 6), but the other means were not affected. The standard deviations were not substantially affected. These are expected and explainable results. As the time gap increases, the non-updated prices become more out-of-date and thus their mean error percentages get more negative.

g. The graphs in Figures 6 through 9 illustrate the sensitivity to changes in parameter values of the major index accuracy measures - viz, the dollar weighted mean error percentage and the percentages of total dollars spent on procurements with absolute prediction errors less than 10%, 20%, and 30% respectively. Appendix D contains copies of the error statistics and error distribution outputs from each of the sixteen runs.

H. Implementation Considerations.

1. The updated prices should be available to MSC personnel and therefore should be resident in and accessible from an automated system such as CCSS.

2. The CURP should be generated when called from the system. The most recent procurement should be updated to the present date by the system, internally. Thus the system would consist of a file of NSNs, each NSN having associated with it the unit price of the most recent EOQ procurement, and the date of that procurement. The updating would be by means of the approved index.

3. As a minimum the output should consist of, NSN, nomenclature, current price (CURP), date of the last EOQ procurement and its unit price. For MEL purposes, the MEL percentage factor should also be output.

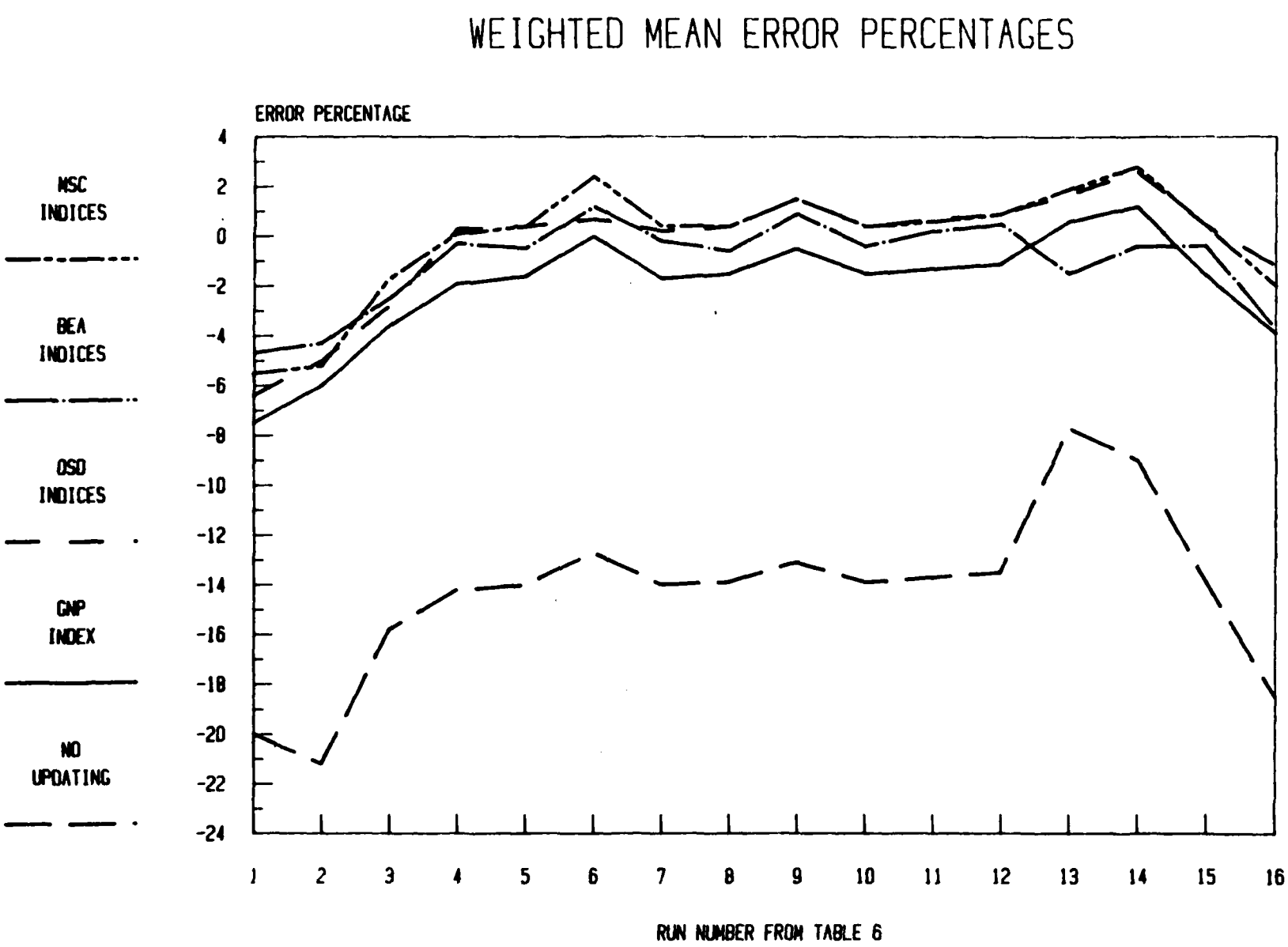

FIGURE 6. SENSITIVITY GRAPH OF DOLLAR WEIGHTED MEAN ERROR PERCENTAGES

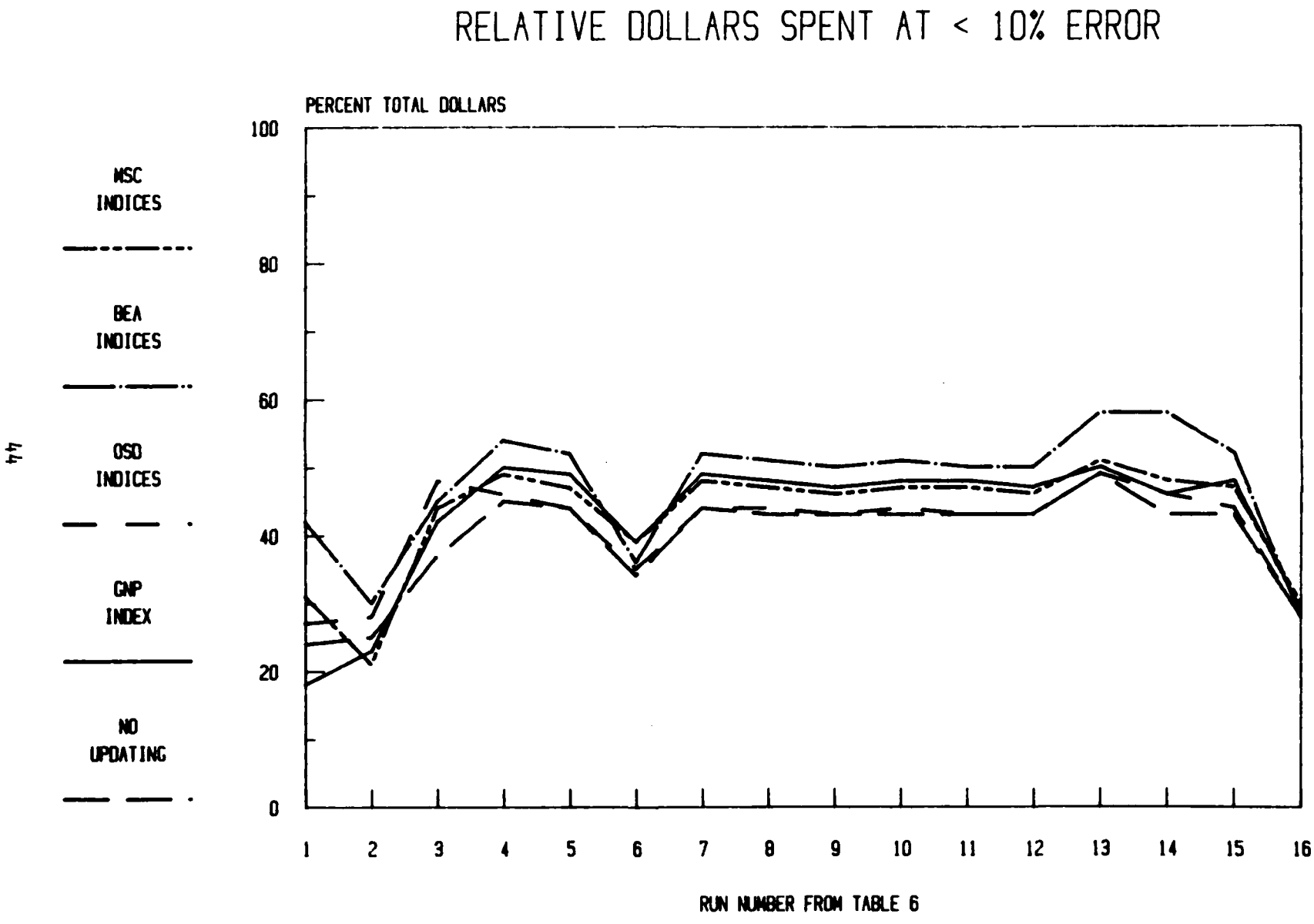

FIGURE 7. SENSITIVITY GRAPH OF RELATIVE DOLLARS SPENT AT < 10% ERROR

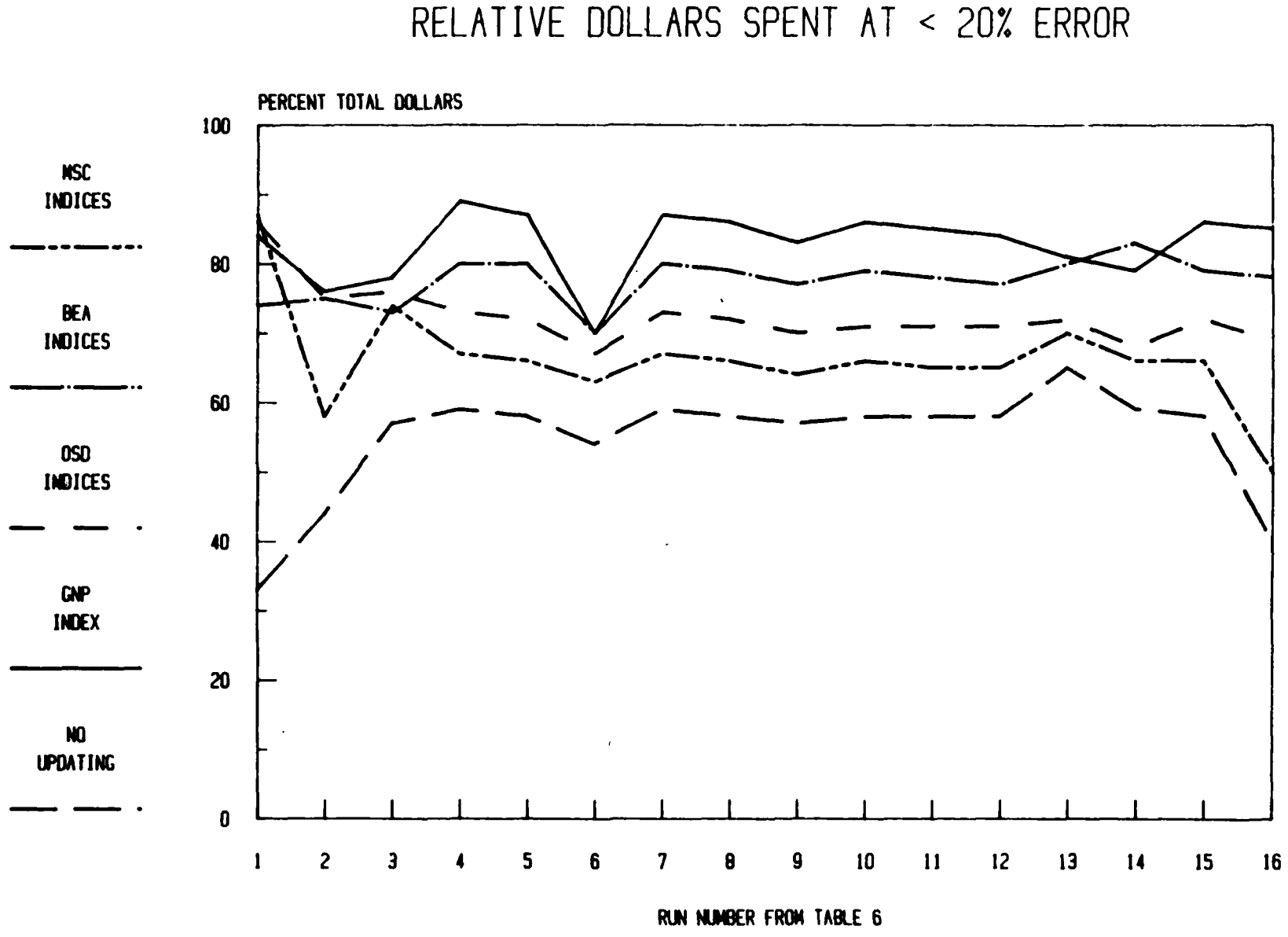

FIGURE 8. SENSITIVITY GRAPH OF RELATIVE DOLLARS SPENT AT < 20% ERROR

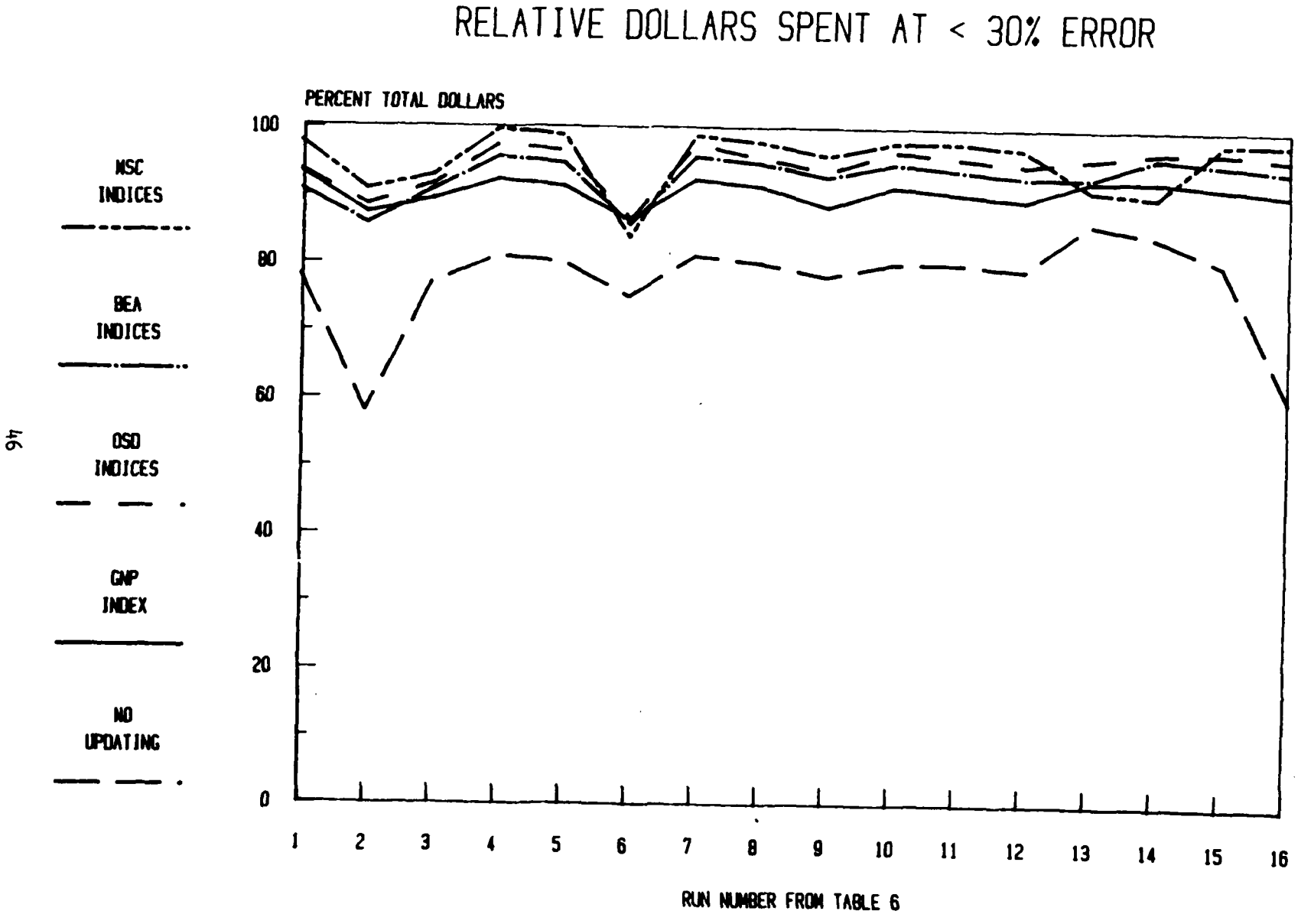

FIGURE 9. SENSITIVITY GRAPH OF RELATIVE DOLLARS SPENT AT < 30% ERROR

4. The CURP should be used to generate the unit price and the associated Maintenance Expenditure Limit (MEL) in the depot work order - Procurement Request Order Number (PRON).

I. Other Uses for Updated Prices.

The prices resulting from application of the methodology presented here are for MEL use only. Though there is potential for other applications such as a starting point in Foreign Military Sales price determination, such use should not be made without further study.

J. Major Item Price Updates.

1. The objective for LSO project 903 (5) was to develop a simple method for periodic updating of major item prices in order to facilitate the materiel planning functions in implementation of the Program Objective Memorandum (POM). The possible use of these prices in MEL applications was discussed but the author believed that further study of this as an application was necessary before such use of the prices could be made. Since then, the prices have been authorized for use in the MEL.

2. The data base of 6408 different NSNs consisted of 4028 Line Item Numbers (LIN) for the major items. The methodology was applied to the NSN with the highest price within each LIN.

3. The methodology used in LSO project 903 is very similar to that used in this study (though the methodology for this study was independently developed). Twenty four MSC indices and 21 BLS PPIs were used to accomplish the update. One of these indices was assigned to each FSC and the price of the item updated to a current (1978) time frame. Then DOD/DA, DARCOM (AMC) projected indices were used to update these prices to

a 1980 time frame for incorporation in the Army Equipment Distribution Plan (TAEDP).

4. Updates are made by the Depot Systems Command using current and projected (for current FY and projected FY) OSD indices, published periodically by HQ AMC as a letter, subject: Inflation Guidance. Initially updated prices were published in Department of the Army (DA) Circular 710-82-1, dated 1 April 1982 with an expiration date of 30 April 1984. Currently prices are published in SB 710-1-1.

VI. Findings and Conclusions.

A. Grouping Army items for index assignment can best be accomplished via the item Federal Supply Class (FSC) code. This considers only existing systems and must be caveated since certain classes of items (i.e. printed circuit boards) are managed by multiple MSCs.

B. Each of the five index sets investigated - MSC, Bureau of Economic Analysis (BEA), Office of the Secretary of Defense (OSD), combined BEA/OSD, and the Gross National Product (GNP) Implicit Price Deflator - was able to predict current procurement prices with similar accuracy. All five alternatives were shown to be superior to the present procedure of using the latest procurement price. This is based upon analysis of a 14 year procurement history of Troop Support and Aviation Readiness Command (TSARCOM - now AVSCOM and TROSCOM) items.

C. AR 750-1 currently mandates that the AMDF price be used to calculate Maintenance Expenditure Limits for secondary items. This AMDF price is usually the latest procurement price, which, as cited above, is often an inaccurate indicator of the true present price.

D. The methodology developed in this project provides estimated CURPs satisfactory for use in the MEL decision process. The amount of effort required to produce a workable methodology for establishing useable CURPs and for providing periodic updates was balanced against the highest attainable accuracy of the CURPs. However, three caveats are in order. First, the FSC does not differentiate between certain items such as printed circuit boards that are managed by multiple MSCs. Second, since the selection of the update index was made using only AVSCOM and TROSCOM items, there is a possibility that the GNP may not be the best updating index for the other Commands. Third, care should be taken in differentiating between actual and estimated CURPs. The estimated CURP should not be considered or used as an actual price unless its source was a recent procurement. The older the price that has to be updated using indices, the greater the potential error in the CURP because of the non-inflationary factors that cause price change. Therefore, while the CURP for these commodities is better than the existing price, its shortcomings must be recognized.

E. This methodology will insure that CURPs used in the MEL decision have one auditable price source available to all users and that prices that were intended for other applications are not used in this decision.

VII. Recommendations

A. In developing a MEL for reparable secondary items, the Gross National Product index should be used to update item prices that are more than one year old. The rationale is that the GNP index appears to be as accurate as any of the other index sets considered, but it clearly is easier

to apply and, unlike the other index sets, is applicable to all items - does not require that items be grouped for index assignment.

B. These estimated current replacement prices should be resident on and accessible from an automated system such as the CCSS.

C. Updated prices should be projected to the year of the overhaul program by means of the OSD projected inflation rates. This will require a change to AR 750-1 which currently mandates using AMDF prices for developing secondary item MELs.

D. A study should be initiated to determine the feasibility and possible advantages of using the GNP updating procedure for prices of major items. The rationale is that the GNP updating procedure is simpler than the current procedure and would be much easier to automate.

APPENDIX A.

REFERENCES

1. Poskus, U.R., Garfinkel, G.S., and Bainbridge, J.R., Maintenance Expenditure Limits in the DARCOM Maintenance Program, Logistics Studies Office Research Note 21-1, October 1983.

2. AR 750-1, Army Materiel Maintenance Concepts and Policies.

3. FM 29-23, Direct Support Maintenance Operations (Nondivisional).

4. SB 710-1-1, Standard Study Number System and Replacement Factors.

5. Dodge, Joseph A., Major Item Price Update Procedures, Logistics Studies Office Project 903, December 1979.

6. Draper, Norman, DARCOM Historical Inflation Report, through FY 1982, August 1983, Methodology and Data Branch, Cost Analysis Division, Office of the Comptroller, HQ DARCOM (AMC).

7. AR 710-1, Centralized Inventory Management of the Army Supply System.

8. AR 708-1, Cataloging and Supply Management Data.

9. Monthly Labor Review, Bureau of Labor Statistics.

APPENDIX B

INFLATION INDEX VALUES

INDEX VALUES FROM DARCOM (AMC) HISTORICAL INFLATION REPORT

	TYPE OF INDEX	FY	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1	AIR FRAME		3.1236	2.9375	2.7745	2.6830	2.5151	2.3538	2.1056	1.8851	1.7566	1.6389	1.5096	1.3645	1.1952	1.0643	1.0000
2	AIRCRAFT ENGINE		3.1156	2.9322	2.6754	2.5544	2.4928	2.4095	2.0734	1.8296	1.7165	1.5688	1.4856	1.3246	1.0894	1.0349	1.0000
3	AVIONICS		2.4987	2.4057	2.2980	2.2149	2.1502	2.0745	1.9364	1.7797	1.7035	1.5823	1.4182	1.3027	1.1478	1.0542	1.0000
4	AIR VEH EXCLAVIONC		3.1218	2.9363	2.7518	2.6532	2.5100	2.3660	2.0984	1.8724	1.7475	1.6227	1.5042	1.3554	1.1698	1.0576	1.0000
5	AIR VEH INCLAVIONC		3.0593	2.8843	2.7081	2.6109	2.4762	2.3391	2.0841	1.8645	1.7438	1.6193	1.4967	1.3509	1.1680	1.0573	1.0000
6	COMBIN ORD &ACCESR		3.1500	2.9800	2.7900	2.5800	2.4200	2.3500	2.2000	1.9200	1.7500	1.5900	1.4400	1.3200	1.2000	1.0800	1.0000
7	AMMO OVER 30 MM		2.9500	2.8900	2.7100	2.5800	2.4300	2.3000	2.1000	1.7400	1.6200	1.4700	1.3900	1.2600	1.1300	1.0500	1.0000
8	AMMO UNDER 30 MM		2.7200	2.6000	2.3200	2.3000	2.1600	2.0800	1.8600	1.7200	1.6200	1.5100	1.4100	1.2600	1.1300	1.0600	1.0000
9	SIGHT & FIRECONTRL		2.8600	2.7300	2.5300	2.3900	2.2300	2.1400	2.0800	1.8900	1.7400	1.5800	1.4400	1.3200	1.2000	1.0900	1.0000
10	RIFL REP CENTRFIRE		2.6400	2.5700	2.4800	2.3500	2.3300	2.2900	2.1800	1.9400	1.8100	1.6600	1.4900	1.4600	1.2500	1.0800	1.0000
11	COMMO & ELECTRONIC		2.3844	2.3403	2.2589	2.1515	2.0730	2.0496	1.9701	1.6639	1.5442	1.4480	1.3784	1.2880	1.1677	1.0747	1.0000
12	MISSILES PROCUREMT		2.7519	2.6578	2.5007	2.4166	2.3418	2.2045	1.9981	1.7582	1.6506	1.5162	1.4044	1.2849	1.1602	1.0625	1.0000
13	MISSIL GRND SPT EQ		2.5901	2.5143	2.3820	2.4023	2.2554	2.1320	1.9665	1.7707	1.6671	1.5337	1.4164	1.3090	1.1817	1.0759	1.0000
14	COMB GRND SPT&MISL		2.6881	2.6014	2.4542	2.3718	2.3082	2.1764	1.9860	1.7629	1.6568	1.5228	1.4089	1.2940	1.1683	1.0676	1.0000
15	CONSTRUCTION EQUIP		3.3016	3.1513	3.0115	2.8569	2.7460	2.6578	2.4846	1.9641	1.7696	1.6131	1.4952	1.3587	1.2117	1.0840	1.0000
16	INTRNAL COMBST ENG		3.1663	3.0207	2.9034	2.7853	2.6808	2.6369	2.5654	2.0622	1.8510	1.6729	1.5304	1.3981	1.2426	1.0972	1.0000
17	MOTOR VEH PARTS		3.3324	3.1800	3.0823	2.9312	2.7648	2.6654	2.5767	2.1121	1.9130	1.7811	1.6629	1.5474	1.4081	1.1203	1.0000
18	TACOM - TOOLING		3.1089	3.0000	2.8489	2.7405	2.6667	2.5882	2.4036	1.9448	1.7868	1.6321	1.4979	1.3510	1.1901	1.0743	1.0000
19	TACTICAL VEHICLES		3.0377	2.9107	2.7775	2.6477	2.4718	2.3713	2.2404	1.8485	1.7172	1.5392	1.4138	1.3033	1.1738	1.0637	1.0000
20	OTHER WHL/TK/CBT V		3.2117	3.0570	2.9107	2.7589	2.6234	2.5115	2.3201	1.9207	1.7776	1.5840	1.4460	1.3166	1.2024	1.0688	1.0000
21	COLLAPSIBLE TANKS		2.3500	2.3100	2.2400	2.2000	2.2000	2.1900	1.9900	1.6300	1.5500	1.4400	1.3900	1.2800	1.1300	1.0500	1.0000
22	AIR COND - HEATERS		2.3200	2.2600	2.1800	2.0700	2.0000	1.9600	1.8900	1.6000	1.5100	1.4300	1.3600	1.2800	1.1600	1.0600	1.0000
23	AVL BRDG/TANK/OTHR		3.0180	2.9200	2.7900	2.6400	2.5100	2.4400	2.2200	1.6500	1.5300	1.4900	1.3700	1.2508	1.1400	1.0500	1.0000
24	POWER PLANT (NUST)		2.7100	2.6300	2.5300	2.4200	2.3600	2.3100	2.1700	1.7900	1.6400	1.5400	1.4300	1.3100	1.1800	1.0700	1.0000
25	FIREFIHT/FRALF TRK		2.7100	2.6300	2.5300	2.4200	2.3600	2.3100	2.1700	1.7900	1.6400	1.5400	1.4300	1.3100	1.1800	1.0700	1.0000
26	PUMPS/COMPRESSORS		3.3000	3.1400	3.0000	2.8500	2.7400	2.6500	2.4900	1.9600	1.7500	1.6100	1.4900	1.3500	1.2000	1.0800	1.0000
27	THEO/TBL E/SURV IN		3.1400	2.9900	2.8400	2.7100	2.6200	2.5500	2.3300	1.9400	1.7508	1.6200	1.4700	1.3300	1.2000	1.0600	1.0000
28	GEN/LIGHT SETS/UTL		2.2800	2.2500	2.2000	2.1200	2.0900	2.0600	1.9200	1.6900	1.5900	1.5100	1.4100	1.3100	1.1700	1.0600	1.0000
29	RAILROAD EQUIPMENT		3.4100	3.2900	3.0600	2.9300	2.7600	2.6200	2.4200	1.8300	1.6400	1.5000	1.3900	1.2700	1.1300	1.0400	1.0000
30	OTHER TRP SPT ITEM		3.0700	2.9800	2.8800	2.7700	2.6800	2.5600	2.2700	1.8700	1.7400	1.6200	1.5100	1.3600	1.1600	1.0400	1.0000
31	BEA - AVIATION							2.3310	2.3810	2.3500	2.0760	1.8770	1.6440	1.4650	1.3040	1.1720	1.0000
32	BEA - AMMUNITION							2.4830	2.2720	2.0220	1.7020	1.6230	1.4880	1.3460	1.2180	1.1000	1.0000
33	BEA - ELECTRONICS							1.8260	1.7660	1.7070	1.5360	1.4460	1.3290	1.2360	1.1310	1.0520	1.0000
34	BEA - MISSILES							2.3000	2.4110	2.2820	2.0830	2.0070	1.8740	1.5470	1.3230	1.1520	1.0000
35	BEA - VEHICLES							2.5490	2.3930	2.2960	1.9040	1.7440	1.6780	1.5440	1.3910	1.1780	1.0000
36	BEA - OTHER EQUIP							2.0650	1.8820	1.7960	1.7240	1.5820	1.4660	1.3400	1.2070	1.0820	1.0000
37	BEA/OSD AVIATION																
38	BEA/OSD AMMUNITION																
39	BEA/OSD ELECTRONIC																
40	BEA/OSD MISSILES																
41	BEA/OSD VEHICLES																
42	BEA/OSD OTHR EQUIP																
43	OSD-MSLS/ACFT/WTCV		0.3471	0.3563	0.3702	0.3874	0.4037	0.4233	0.4590	0.5113	0.5581	0.6008	0.6437	0.7013	0.7840	0.8749	1.0000
44	OSD-AMMO/CE/OTHER		0.4094	0.4224	0.4390	0.4590	0.4766	0.4964	0.5250	0.5712	0.6089	0.6544	0.6989	0.7589	0.8403	0.9295	1.0000
45	M S C INDICES																
46	BEA (QMLY) INDICES																
47	BEA/OSD INDICES																
48	O S D INDICES																
49	G N P		2.5076	2.3859	2.2637	2.1559	2.0690	1.9574	1.7991	1.6720	1.5656	1.4784	1.3765	1.2675	1.1596	1.0600	1.0000
50	NO UPDATING		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

INDEX VALUES USED IN THIS REPORT

	TYPE OF INDEX	FY	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1	AIR FRAME		3.1236	2.9375	2.7745	2.6830	2.5151	2.3538	2.1056	1.8851	1.7566	1.6389	1.5096	1.3645	1.1952	1.0643	1.0000
2	AIRCRAFT ENGINE		3.1156	2.9322	2.6754	2.5544	2.4928	2.4095	2.0734	1.8296	1.7165	1.5688	1.4856	1.3246	1.0894	1.0349	1.0000
3	AVIONICS		2.4987	2.4057	2.2980	2.2149	2.1502	2.0745	1.9364	1.7797	1.7035	1.5823	1.4182	1.3027	1.1478	1.0542	1.0000
4	AIR VEH EXCLAVIONC		3.1218	2.9363	2.7518	2.6532	2.5100	2.3660	2.0984	1.8724	1.7475	1.6227	1.5042	1.3554	1.1698	1.0576	1.0000
5	AIR VEH INCLAVIONC		3.0593	2.8843	2.7081	2.6109	2.4762	2.3391	2.0841	1.8645	1.7438	1.6193	1.4967	1.3509	1.1680	1.0573	1.0000
6	COMBIN ORD &ACCESR		3.1500	2.9800	2.7900	2.5800	2.4200	2.3500	2.2000	1.9200	1.7500	1.5900	1.4400	1.3200	1.2000	1.0800	1.0000
7	AMMO OVER 30 MM		2.9500	2.8900	2.7100	2.5800	2.4300	2.3000	2.1000	1.7400	1.6200	1.4700	1.3900	1.2600	1.1300	1.0500	1.0000
8	AMMO UNDER 30 MM		2.7200	2.6000	2.3200	2.3000	2.1600	2.0800	1.8600	1.7200	1.6200	1.5100	1.4100	1.2600	1.1300	1.0600	1.0000
9	SIGHT & FIRECONTRL		2.8600	2.7300	2.5300	2.3900	2.2300	2.1400	2.0800	1.8900	1.7400	1.5800	1.4400	1.3200	1.2000	1.0900	1.0000
10	RIFL REP CENTRFIRE		2.6400	2.5700	2.4800	2.3500	2.3300	2.2900	2.1800	1.9400	1.8100	1.6600	1.4900	1.4600	1.2500	1.0800	1.0000
11	COMMO & ELECTRONIC		2.3844	2.3403	2.2589	2.1515	2.0730	2.0496	1.9701	1.6639	1.5442	1.4480	1.3784	1.2880	1.1677	1.0747	1.0000
12	MISSILES PROCUREMT		2.7519	2.6578	2.5007	2.4166	2.3418	2.2045	1.9981	1.7582	1.6506	1.5162	1.4044	1.2849	1.1602	1.0625	1.0000
13	MISSIL GRND SPT EQ		2.5901	2.5143	2.3820	2.4023	2.2554	2.1320	1.9665	1.7707	1.6671	1.5337	1.4164	1.3090	1.1817	1.0759	1.0000
14	COMB GRND SPT&MISL		2.6881	2.6014	2.4542	2.3718	2.3082	2.1764	1.9860	1.7629	1.6568	1.5228	1.4089	1.2940	1.1683	1.0676	1.0000
15	CONSTRUCTION EQUIP		3.3016	3.1513	3.0115	2.8569	2.7460	2.6578	2.4846	1.9641	1.7696	1.6131	1.4952	1.3587	1.2117	1.0840	1.0000
16	INTRNAL COMBST ENG		3.1663	3.0207	2.9034	2.7853	2.6808	2.6369	2.5654	2.0622	1.8510	1.6729	1.5304	1.3981	1.2426	1.0972	1.0000
17	MOTOR VEH PARTS		3.3324	3.1800	3.0823	2.9312	2.7648	2.6654	2.5767	2.1121	1.9130	1.7811	1.6629	1.5474	1.4081	1.1205	1.0000
18	TACOM - TOOLING		3.1089	3.0000	2.8489	2.7405	2.6667	2.5882	2.4036	1.9448	1.7868	1.6321	1.4979	1.3510	1.1901	1.0743	1.0000
19	TACTICAL VEHICLES		3.0377	2.9107	2.7775	2.6477	2.4718	2.3713	2.2404	1.8485	1.7172	1.5392	1.4138	1.3033	1.1738	1.0637	1.0000
20	OTHER WHL/TK/CBT V		3.2117	3.0570	2.9107	2.7589	2.6234	2.5115	2.3201	1.9207	1.7776	1.5840	1.4460	1.3166	1.2024	1.0688	1.0000
21	COLLAPSIBLE TANKS		2.3500	2.3100	2.2400	2.2000	2.2000	2.1900	1.9900	1.6300	1.5500	1.4400	1.3900	1.2800	1.1300	1.0500	1.0000
22	AIR COND - HEATERS		2.3200	2.2600	2.1800	2.0700	2.0000	1.9600	1.8900	1.6000	1.5100	1.4300	1.3600	1.2800	1.1600	1.0600	1.0000
23	AVL BRDG/TANK/OTHR		3.0100	2.9200	2.7900	2.6400	2.5100	2.4400	2.2200	1.6500	1.5300	1.4900	1.3700	1.2500	1.1400	1.0500	1.0000
24	POWER PLANT (MUST)		2.7100	2.6300	2.5300	2.4200	2.3600	2.3100	2.1700	1.7900	1.6400	1.5400	1.4300	1.3100	1.1800	1.0700	1.0000
25	FIREFIGHT/FRKLF TRK		2.7100	2.6300	2.5300	2.4200	2.3600	2.3100	2.1700	1.7900	1.6400	1.5400	1.4300	1.3100	1.1800	1.0700	1.0000
26	PUMPS/COMPRESSORS		3.3000	3.1400	3.0000	2.8500	2.7400	2.6500	2.4900	1.9600	1.7500	1.6100	1.4900	1.3500	1.2000	1.0800	1.0000
27	THEO/TRL E/SURV IN		3.1400	2.9900	2.8400	2.7100	2.6200	2.5500	2.3300	1.9400	1.7500	1.6200	1.4700	1.3300	1.2000	1.0600	1.0000
28	GEN/LIGHT SETS/UTL		2.2800	2.2500	2.2000	2.1200	2.0900	2.0600	1.9200	1.6900	1.5900	1.5100	1.4100	1.3100	1.1700	1.0600	1.0000
29	RAILROAD EQUIPMENT		3.4100	3.2900	3.0600	2.9300	2.7600	2.6200	2.4200	1.8300	1.6400	1.5000	1.3900	1.2700	1.1300	1.0400	1.0000
30	OTHER TRP SPT ITEM		3.0700	2.9800	2.8800	2.7700	2.6800	2.5600	2.2700	1.8700	1.7400	1.6200	1.5100	1.3600	1.1600	1.0400	1.0000
31	BEA - AVIATION							2.3310	2.3810	2.3500	2.0760	1.8770	1.6440	1.4650	1.3040	1.1720	1.0000
32	BEA - AMMUNITION							2.4830	2.2720	2.0220	1.7020	1.6230	1.4880	1.3460	1.2180	1.1000	1.0000
33	BEA - ELECTRONICS							1.8260	1.7660	1.7070	1.5360	1.4460	1.3290	1.2360	1.1318	1.0520	1.0000
34	BEA - MISSILES							2.3000	2.4110	2.2820	2.0830	2.0070	1.8740	1.5470	1.3230	1.1520	1.0000
35	BEA - VEHICLES							2.5490	2.3930	2.2960	1.9040	1.7440	1.6780	1.5440	1.3910	1.1780	1.0000
36	BEA - OTHER EQUIP							2.0650	1.8820	1.7960	1.7240	1.5820	1.4660	1.3400	1.2070	1.0820	1.0000
37	BEA/OSD AVIATION		2.8427	2.7693	2.6653	2.5470	2.4442	2.3310	2.3810	2.3500	2.0760	1.8770	1.6440	1.4650	1.3040	1.1720	1.0000
38	BEA/OSD AMMUNITION		3.0107	2.9180	2.8077	2.6853	2.5862	2.4830	2.2720	2.0220	1.7020	1.6230	1.4880	1.3460	1.2180	1.1000	1.0000
39	BEA/OSD ELECTRONIC		2.2140	2.1459	2.0648	1.9748	1.9019	1.8260	1.7660	1.7070	1.5360	1.4460	1.3290	1.2360	1.1318	1.0520	1.0000
40	BEA/OSD MISSILES		2.8049	2.7325	2.6299	2.5131	2.4117	2.3000	2.4110	2.2820	2.0830	2.0070	1.8740	1.5470	1.3230	1.1520	1.0000
41	BEA/OSD VEHICLES		3.1086	3.0283	2.9146	2.7852	2.6728	2.5490	2.3930	2.2960	1.9040	1.7440	1.6780	1.5440	1.3910	1.1780	1.0000
42	BEA/OSD OTHR EQUIP		2.5038	2.4268	2.3350	2.2333	2.1508	2.0650	1.8820	1.7960	1.7240	1.5820	1.4660	1.3400	1.2070	1.0820	1.0000
43	OSD-MSLS/ACFT/WTCV		2.8810	2.8066	2.7012	2.5813	2.4771	2.3624	2.1786	1.9558	1.7918	1.6644	1.5535	1.4259	1.2755	1.1430	1.0000
44	OSD-AMMO/CE/OTHER		2.4426	2.3674	2.2779	2.1786	2.0982	2.0145	1.9048	1.7507	1.6423	1.5281	1.4308	1.3177	1.1901	1.0756	1.0000
45	M S C INDICES																
46	BEA (ONLY) INDICES																
47	BEA/OSD INDICES																
48	O S D INDICES																
49	G N P		2.5076	2.3859	2.2637	2.1559	2.0690	1.9574	1.7991	1.6720	1.5656	1.4784	1.3765	1.2675	1.1596	1.0600	1.0000
50	NO UPDATING		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

APPENDIX C

MSC INDEX ASSIGNMENT TO FSCs

This is a complete listing of the Federal Supply classes and titles (from AR 708-1) with the corresponding MSC index codes as assigned. The column titled PICA/SICA refers to the Primary or Secondary Inventory Control Activity, generally a code for the MSC that manages that item -

AZ - TACOM

BD - MICOM

BF - AMCCOM

CL - CECOM

CT - TROSCOM or AVSCOM (previously TSARCOM)

CD - GMPA (USA General Materiel and Petroleum Activity)

Index

	FSC Class	Title	Army PICA/SICA
10	1005	Guns, through 30mm	BF
	1010	Guns, over 30mm up to 75mm	BF
	1015	Guns, 75mm through 125mm	BF
	1020	Guns, over 125mm through 150mm	BF
	1025	Guns, over 150mm through 200mm	BF
	1030	Guns, over 200mm through 300mm	BF
	1035	Guns, over 300mm	BF
6	1040	Chemical Weapons & Equipment	BF
	1045	Launchers, Torpedo & Depth Charge	BF
	1055	Launchers, Rocket & Pyrotechnic	BF
30	1070	Nets and Booms, Ordnance	CT
11	1075	Degaussing & Mine Sweeping Equipment	CT
30	1080	Camouflage & Deception Equipment	CT
6	1090	Assemblies Interchangeable Between Weapons in Two or More Classes	BF
10	1095	Miscellaneous Weapons	BF
6	1105	Nuclear Bombs	BF
	1110	Nuclear Projectiles	
	1115	Nuclear Warheads & Warhead Sections	BF
	1120	Nuclear Depth Charges	BF
	1125	Nuclear Demolition Charges	BF
	1127	Nuclear Rockets	BF
	1130	Conversion Kits, Nuclear Ordnance	BF
	1135	Fuzing & Firing Devices, Nuclear Ordnance	BF
	1140	Nuclear Components	BF
	1145	Explosive & Pyrotechnic Components, Nuclear Ordnance	BF
	1190	Specialized Test & Handling Equipment, Nuclear Ordnance	BF
	1195	Miscellaneous Nuclear Ordnance	BF
9	1210	Fire Control Directors	BF
	1220	Fire Control Computing Sights and Devices	BF
	1230	Fire Control Systems, Complete	BF
	1240	Optical Sighting & Ranging Equipment	BF
	1250	Fire Control Stabilizing Mechanisms	BF
	1260	Fire Control Designating & Indicating Equipment	BF
	1265	Fire Control Transmitting & Receiving Equipment, except Airborne	BF
	1270	Aircraft Gunnery Fire Control Components	BF
	1280	Aircraft Bombing Fire Control Components	BD
	1285	Fire Control Radar Equipment, except Airborne	BF
	1287	Fire Control Sonar Equipment	BF
	1290	Miscellaneous Fire Control Equipment	BF
8	1305	Ammunition, through 30mm	BF
7	1310	Ammunition, over 30mm up to 75mm	BF
	1315	Ammunition, 75mm through 125mm	BF
	1320	Ammunition, over 125mm	BF
6	1325	Bombs	BF
	1330	Grenades	BF
12	1336	Guided Missile Warheads & Explosive Components	BD
	1337	Guided Missile & Space Vehicle Explosive Propulsion Units, Solid Fuel & Components	BD
	1338	Guided Missile & Space Vehicle Inert Propulsion Units, Solid Fuel & Components	BD
	1340	Rockets, Rocket Ammunition & Rocket Components	BF
6	1345	Land Mines	BF
	1350	Underwater Mine Inert Components	BF
	1351	Underwater Mine Explosive Components	BF
	1355	Torpedo Inert Components	BF
	1356	Torpedo Explosive Components	BF
	1360	Depth Charge Inert Components	BF

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FSC Class	Title	Army PICA/SICA
1361	Depth Charge Explosive Components	BF
1365	Military Chemical Agents	BF
1370	Pyrotechnics	BF
1375	Demolition Materials	BF
1376	Bulk Explosives	BF
1377	Cartridge & Propellant Actuated Devices & Components	BF
6 1380	Military Biological Agents	BF
1385	Explosive Ordnance Disposal Tools, Surface	BF
1386	Explosive Ordnance Disposal Tools, Underwater	BF
1390	Fuzes and Primers	BF
1395	Miscellaneous Ammunition	BF
1398	Specialized Ammunition Handling & Servicing Equipment	BF
1410	Guided Missiles	BD
1420	Guided Missile Components	BD
12 1425	Guided Missile Systems, Complete	BD
1427	Guided Missile Subsystem	BD
1430	Guided Missile Remote Control Systems	BD
13 1440	Launchers, Guided Missile	BD
1450	Guided Missile Handling & Servicing Equipment	BD
5 1510	Aircraft, Fixed Wing	CT
1520	Aircraft, Rotary Wing	CT
4 1540	Gliders	CT
1550	Drones	CT
1560	Airframe Structural Components	CT
1610	Aircraft Propellers	CT
1615	Helicopter Rotor Blades, Drive Mechanisms & Components	CT
1620	Aircraft Landing Gear Components	CT
1630	Aircraft Wheel & Brake Systems	CT
1650	Aircraft Hydraulic, Vacuum, & De-Icing System Components	CT
1 1660	Aircraft Air Conditioning, Heating, & Pressurizing Equipment	CT
1670	Parachutes: Aerial Pick-Up, Delivery, Recovery System & Cargo Tie Down Equipment	CT
1680	Miscellaneous Aircraft Accessories & Components	CT
1710	Aircraft Arresting Barrier & Barricade Equipment	CT
1720	Aircraft Launching Equipment	CT
1730	Aircraft Ground Servicing Equipment	CT
25 1740	Airfield Specialized Trucks & Trailers	CT
1810	Space Vehicles	BD
1820	Space Vehicle Components	BD
1830	Space Vehicle Remote Control Systems	BD
5 1840	Space Vehicle Launchers	BD
1850	Space Vehicle Handling & Servicing Equipment	BD
1860	Space Survival Equipment	CT
1905	Combat Ships & Landing Vessels	CT
1910	Transport Vessels, Passenger & Troop	CT
1915	Cargo & Tanker Vessels	CT
1920	Fishing Vessels	CT
1925	Special Service Vessels	CT
1930	Barges & Lighters, Cargo	CT
30 1935	Barges & Lighters, Special Purpose	CT
1940	Small Craft	CT
1945	Pontoons & Floating Docks	CT
1950	Floating Drydocks	CT
1955	Dredges	CT
1990	Miscellaneous Vessels	CT
2010	Ship & Boat Propulsion Components	CT

FSC Class	Title	Army PICA/SICA
2020	Rigging & Rigging Gear	CT
2030	Deck Machinery	CT
2040	Marine Hardware & Hull Items	CT
2050	Buoys	CT
2060	Commercial Fishing Equipment	CT
2090	Miscellaneous Ship & Marine Equipment	CT
2210	Locomotives	CT
2220	Rail Cars	CT
2230	Right-of-Way Construction & Maintenance Equipment Railroad	CD
2240	Locomotive & Rail Car Accessories & Components	CT
2250	Track Materials, Railroad	CT
2305	Ground Effect Vehicles	CT
2310	Passenger Motor Vehicles	AZ
2320	Trucks & Truck Tractors, Wheeled	AZ
2330	Trailers	AZ
2340	Motorcycles, Motor Scooters, & Bicycles	AZ
2350	Combat, Assault & Tactical Vehicles, Tracked	AZ
2410	Tractors, Full Track, Low Speed	CD
2420	Tractors, Wheeled	CD
2430	Tractors, Track Laying, High Speed	AZ
2510	Vehicular Cab, Body & Frame Structural Components	CD
2520	Vehicular Power Transmission Components	CD
2530	Vehicular Brake, Steering, Axle, Wheel & Track Components	CD
2540	Vehicular Furniture & Accessories	CD
2590	Miscellaneous Vehicular Components	CD
2610	Tires & Tubes, Pneumatic, Except Aircraft	AZ
2620	Tire & Tubes, Pneumatic, Aircraft	CT
2630	Tires, Solid & Cushion	AZ
2640	Tire Rebuilding & Tire & Tube Repair Materials	AZ
2805	Gasoline Reciprocating Engines Except Aircraft & Components	CD
2810	Gasoline Reciprocating Engines, Aircraft & Components	CT
2815	Diesel Engines & Components	CD
2820	Steam Engines, Reciprocating & Components	CT
2825	Steam Turbines & Components	CT
2830	Water Turbines & Water Wheels & Components	CT
2835	Gas Turbines & Jet Engines, Except Aircraft & Components	CT
2840	Gas Turbines & Jet Engines, Aircraft & Components	CT
2845	Rocket Engines & Components	BD
2850	Gasoline Rotary Engines & Components	CD
2895	Miscellaneous Engines & Components	CD
2910	Engine Fuel System Components, Nonaircraft	CD
2915	Engine Fuel System Components, Aircraft	CT
2920	Engine Electrical System Components, Nonaircraft	CD
2925	Engine Electrical System Components, Aircraft	CT
2930	Engine Cooling System Components, Nonaircraft	CD
2935	Engine Cooling System Components, Aircraft	CT
2940	Engine Air & Oil Filters, Strainers and Cleaners, Nonaircraft	CD
2945	Engine Air & Oil Filters, Strainers and Cleaners, Aircraft	CT
2950	Turbosuperchargers	CT
2990	Miscellaneous Engine Accessories, Nonaircraft	CD
2995	Miscellaneous Engine Accessories, Aircraft	CT
3010	Torque Converters & Speed Changers	CD
3020	Gears, Pulleys, Sprockets & Transmission Chain	CD

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FSC Class	Title	Army PICA/SICA
17 3030	Belting, Drive Belts, Fan Belts & Accessories	CD
3040	Miscellaneous Power Transmission Equipment	CD
3110	Bearings, Antifriction Unmounted	CD
3120	Bearings, Plain, Unmounted	CD
3130	Bearings, Mounted	CD
3210	Sawmill & Planning Mill Machinery	CD
3220	Woodworking Machines	CD
3230	Tools & Attachments for Woodworking Machinery	CD
3405	Saws & Filing Machines	CD
3408	Machining Centers & Way-Type Machines	CD
3410	Electrical & Ultrasonic Erosion Machines	CD
3411	Boring Machines	CD
3412	Broaching Machines	CD
3413	Drilling & Tapping Machines	CD
3414	Gear Cutting & Finishing Machines	CD
3415	Grinding Machines	CD
3416	Lathes	CD
3417	Milling Machines	CD
3418	Planers & Shapers	CD
3419	Miscellaneous Machine Tools	CD
3422	Rolling Mills & Drawing Machines	CD
3424	Metal Heat Treating & Non-Thermal Treating Equipment	CD
3426	Metal Finishing Equipment	CD
3431	Electric Arc Welding Equipment	CD
3432	Electric Resistance Welding Equipment	CD
30 3433	Gas Welding, Heat Cutting & Metalizing Equipment	CD
3436	Welding Positioners & Manipulators	CD
3438	Miscellaneous Welding Equipment	CD
3439	Miscellaneous Welding, Soldering & Brazing Supplies & Accessories	CD
3441	Bending & Forming Machines	CD
3442	Hydraulic & Pneumatic Presses, Power Driven	CD
3443	Mechanical Presses, Power Driven	CD
3444	Manual Presses	CD
3445	Punching & Shearing Machines	CD
3446	Forging Machinery & Hammers	CD
3447	Wire & Metal Ribbon Forming Machines	CD
3448	Riveting Machines	CD
3449	Miscellaneous Secondary Metal Forming & Cutting Machines	CD
3450	Machine Tools, Portable	CD
3455	Cutting Tools for Machine Tools	CD
3456	Cutting & Forming Tools for Secondary Metalworking Machinery	CD
3460	Machine Tool Accessories	CD
3461	Accessories for Secondary Metalworking Machinery	CD
3465	Production Jigs, Fixtures & Templates	CD
3470	Machine Shop Sets, Kits & Outfits	CD
3510	Laundry & Dry Cleaning Equipment	CD
3520	Shoe Repairing Equipment	CD
3530	Industrial Sewing Machines & Mobile Textile Repair Shops	CD
3540	Wrapping & Packaging Machinery	CD
3550	Vending & Coin Operated Machines	CD
3590	Miscellaneous Service & Trade Equipment	CD
3605	Food Products Machinery & Equipment	CD
3610	Printing, Duplicating & Bookbinding Equipment	CD

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	PSC Class	Title	Army PICA/SICA
	3611	Industrial Marking Machines	CD
	3617	Pulp & Paper Industries Machinery	CD
	3620	Rubber & Plastics Working Machinery	CD
	3625	Textile Industries Machinery	CD
	3630	Clay & Concrete Products Industries Machinery	CD
	3645	Crystal & Glass Industries Machinery	CD
	3640	Tobacco Manufacturing Machinery	CD
	3645	Leather Tanning & Leather Working Industries Machinery	CD
	3650	Chemical & Pharmaceutical Products Manufacturing Machinery	CD
	3655	Gas Generating & Dispensing Systems, Fixed or Mobile	CD
	3660	Industrial Size Reduction Machinery	CD
	3670	Specialized Semiconductor Microcircuit & Printed Circuit Board Manufacturing Machinery	CD
	3680	Foundry Machinery, Related Equipment & Supplies	CD
30	3685	Specialized Metal Container Manufacturing Machinery & Related Equipment	CD
	3690	Specialized Ammunition Ordnance Machinery & Related Equipment	BF
	3693	Industrial Assembly Machines	CD
	3694	Clean Work Stations, Controlled Environment & Related Equipment	CD
	3695	Miscellaneous Special Industry Machinery	CD
	3710	Soil Preparation Equipment	CD
	3720	Harvesting Equipment	CD
	3730	Dairy, Poultry & Livestock Equipment	CD
	3740	Pest, Disease & Frost Control Equipment	CD
	3750	Gardening Implements & Tools	CD
	3760	Animal Drawn Vehicle & Farm Trailers	CD
	3770	Saddlery, Harness, Whips & Related Animal Furnishings	CD
	3805	Earth Moving & Excavating Equipment	CD
	3810	Cranes & Crane-Shovels	CD
	3815	Crane & Crane-Shovel Attachments	CD
	3820	Mining, Rock Drilling, Earth Boring & Related Equipment	CD
15	3825	Road Clearing & Cleaning Equipment	CD
	3830	Truck & Tractor Attachments	CD
	3835	Petroleum Production & Distribution Equipment	CD
	3895	Miscellaneous Construction Equipment	CD
	3910	Conveyors	CD
	3915	Materiels Feeders	CD
	3920	Materiels Handling Equipment Non-Self-Propelled	CD
	3930	Warehouse Trucks & Tractors, Self-Propelled	CD
	3940	Blocks, Tackle, Rigging & Slings	CD
25	3950	Winches, Hoists, Cranes & Derricks	CD
	3960	Elevators & Escalators	CT
	3990	Miscellaneous Materiels Handling Equipment	CD
	4010	Chain & Wire Rope	CD
	4020	Fiber Rope, Cordage & Twine	CD
	4030	Fittings for Rope, Cable & Chain	CD
	4110	Refrigeration Equipment	CD
	4120	Air Conditioning Equipment	CD
22	4130	Refrigeration & Air Conditioning Components	CD
	4140	Fans, Air Circulators, Blower Equipment	CD
	4210	Fire Fighting Equipment	CD
	4220	Marine Lifesaving & Diving Equipment	CD
25	4230	Decontaminating & Impregnating Equipment	CD
	4240	Safety & Rescue Equipment	CD
	4310	Compressors & Vacuum Pumps	CD
26	4320	Power & Hand Pumps	CD

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FSC Class	Title	Army PICA/SICA
26 4330	Centrifugals, Separators, and Pressure & Vacuum Filters	CD
4410	Industrial Boilers	CT
4420	Heat Exchangers & Steam Condensers	CT
4430	Industrial Furnaces, Kilns Lehrs & Ovens	CD
24 4440	Driers, Dehydrators & Anhydrators	CD
4460	Air Purification Equipment	CD
4470	Nuclear Reactors	CT
4510	Plumbing Fixtures & Accessories	CD
4520	Space Heating Equipment & Domestic Water Heaters	CD
22 4530	Fuel Burning Equipment Units	CD
4540	Miscellaneous Plumbing, Heating & Sanitation Equipment	CD
4610	Water Purification Equipment	CD
24 4620	Water Distillation Equipment, Marine & Industrial	CD
4630	Sewage Treatment Equipment	CD
4710	Pipe & Tube	CD
4720	Hose & Tubing, Flexible	CD
30 4730	Fittings & Specialties; Hose, Pipe & Tube	CD
4810	Valves, Powered	CD
4820	Valves, Nonpowered	CD
4910	Motor Vehicle Maintenance & Repair Shop Specialized Equipment	CD
4920	Aircraft Maintenance & Repair Shop Specialized Equipment	CT
4921	Torpedo Maintenance, Repair & Checkout Specialized Equipment	BF
4923	Depth Charges & Underwater Mines Maintenance, Repair & Checkout Specialized Equipment	BF
4925	Ammunition Maintenance, Repair & Checkout Specialized Equipment	BF
4927	Rocket Maintenance, Repair & Checkout Specialized Equipment	BD
4930	Lubrication & Fuel Dispensing Equipment	CD
4931	Fire Control Maintenance & Repair Shop Specialized Equipment	BF
4933	Weapons Maintenance & Repair Shop Specialized Equipment	BF
4935	Guided Missile Maintenance, Repair & Checkout Specialized Equipment	BD
18 4940	Miscellaneous Maintenance & Repair Shop Specialized Equipment	BF
4960	Space Vehicle Maintenance, Repair & Checkout Specialized Equipment	BD
5110	Hand Tools, Edged, Nonpowered	CD
5120	Hand Tools, Nonedged Nonpowered	CD
5130	Hand Tools, Power Driven	CD
5133	Drill, Bits, Counterbores & Countersinks, Hand & Machine	CD
5136	Taps, Dies & Collets: Hand & Machine	CD
5140	Tool & Hardware Boxes	CD
5180	Sets, Kits & Outfits of Hand Tools	CD
5210	Measuring Tools, Craftmen's	CD
5220	Inspection Gages & Precision Layout Tools	BF
5280	Sets, Kits & Outfits of Measuring Tools	BF
5305	Screws	CD
5306	Bolts	CD
5307	Studs	CD
5310	Nuts & Washers	CD
5315	Nails, Keys & Pins	CD
5320	Rivets	CD
30 5325	Fastening Devices	CD
5330	Packing & Gasket Materials	CD
5335	Metal Screening	CD
5340	Miscellaneous Hardware	CD
5345	Disks & Stones, Abrasive	CD
5350	Abrasive Materials	CD
5355	Knobs & Pointers	CD

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FSC Class	Title	Army PICA/SICA
5360	Coil, Flat & Wire Springs	CD
5365	Rings, Shims & Spacers	CD
5410	Prefabricated & Portable Buildings	CD
5411	Rigid Wall Shelters	CT
5420	Bridges, Fixed & Floating	CT
5430	Storage Tanks	CD
5440	Scaffolding Equipment & Concrete Forms	CD
5445	Prefabricated Tower Structures	CT
5450	Miscellaneous Prefabricated Structures	CD
5510	Lumber & Related Basic Wood Materials	CD
5520	Millwork	CD
5530	Plywood & Veneer	CD
5610	Mineral Construction Materials, Bulk	CD
5620	Building Glass, Tile, Brick & Block	CD
5630	Pipe & Conduit, Nonmetallic	CD
5640	Wallboard, Building Paper & Thermal Insulation Materials	CD
5650	Roofing & Sliding Materials	CD
5660	Fencing, Fences & Gates	CD
5670	Architectural & Related Metal Products	CD
5680	Miscellaneous Construction Materials	CD
5805	Telephone & Telegraph Equipment	CL
5810	Communications Security Equipment & Components	CM
5811	Other Cryptologic Equipment & Components	CU
5815	Teletype & Facsimile Equipment	CL
5820	Radio & Television Communication Equipment, Except Airborne	CL
5821	Radio & Television Communication Equipment, Airborne	CL
5825	Radio Navigation Equipment, Except Airborne	CL
5826	Radio Navigation Equipment, Airborne	CL
5830	Intercommunication & Public Address Systems, Except Airborne	CL
5831	Intercommunication & Public Address Systems, Airborne	CL
5835	Sound Recording & Reproducing Equipment	CL
5840	Radar Equipment, Except Airborne	CL
5841	Radar Equipment, Airborne	CL
5845	Underwater Sound Equipment	CL
5850	Visible & Invisible Light Communication Equipment	CL
5855	Night Vision Equipment, Emitted & Reflected Radiation	CL
5860	Stimulated Coherent Radiation Devices, Components & Accessories	CL
5865	Electronic Countermeasures, Counter-Countermeasures & Quick Reaction Capability Equipment	CL
5895	Miscellaneous Communication Equipment (less ECM, ECCM & QRC)	CL
5905	Resistors	CL
5910	Capacitors	CL
5915	Filters & Networks	CL
5920	Fuses & Lightning Arrestors	CL
5925	Circuit Breakers	CL
5930	Switches	CL
5935	Connectors, Electrical	CL
5940	Lugs, Terminals & Terminal Strips	CL
5945	Relays & Solenoids	CL
5950	Coils & Transformers	CL
5955	Piezoelectric Crystals	CL
5960	Electron Tubes & Associated Hardware	CL
5961	Semiconductor Devices & Associated Hardware	CL

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	FSC Class	Title	Army PICA/SICA
	5962	Microcircuits, Electronic	CL
	5963	Electronic Modules	CL
	5965	Headsets, Handsets, Microphones & Speakers	CL
	5970	Electrical Insulators & Insulating Materials	CL
	5975	Electrical Hardware & Supplies	CL
	5977	Electrical Contact Brushes & Electrodes	CL
	5985	Antennas, Waveguides & Related Equipment	CL
	5990	Synchros & Resolvers	CL
11	5995	Cable, Cord & Wire Assemblies: Communication Equipment	CL
	5999	Miscellaneous Electrical & Electronic Components	CL
	6010	Fiber Optic Conductors	CL
	6015	Fiber Optic Cables	CL
	6020	Fiber Optic Cable Assemblies & Harnesses	CL
	6030	Fiber Optic Devices	CL
	6060	Fiber Optic Interconnectors	CL
	6070	Fiber Optic Accessories & Supplies	CL
	6080	Fiber Optic Kits & Sets	CL
	6105	Motors, Electrical	CD
28	6110	Electrical Control Equipment	CD
	6115	Generators & Generator Sets, Electrical	CD
	6116	Fuel Cell Power Units, Components & Accessories	CT
	6120	Transformer: Distribution & Power Station	CD
	6125	Converters, Electrical, Rotating	CL
	6130	Converters, Electrical, Nonrotating	CL
	6135	Batteries, Primary	CL
	6140	Batteries, Secondary	CL
	6145	Ware & Cable, Electrical	CL
	6150	Miscellaneous Electrical Power & Distribution Equipment	CD
	6210	Indoor & Outdoor Electrical Lighting Fixtures	CD
11	6220	Electrical Vehicular Lights & Fixtures	CD
	6230	Electric Portable & Hand Lighting Equipment	CD
	6240	Electric Lamps	CD
	6250	Ballasts, Lampholders & Starters	CD
	6260	Nonelectric Lighting Fixtures	CD
	6310	Traffic & Transit Signal Systems	CD
	6320	Shipboard Alarm & Signal Systems	CT
	6330	Railroad Signal & Warning Devices	CD
	6340	Aircraft Alarm & Signal Systems	CT
	6350	Miscellaneous Alarm & Signal Systems	CD
	6505	Drugs, Biologicals & Official Reagents	AS
	6508	Medicated Cosmetics & Toiletries	AS
	6510	Surgical Dressing Materiels	AS
	6515	Medical & Surgical Instruments, Equipment & Supplies	AS
	6520	Dental Instruments, Equipment & Supplies	AS
NA	6525	X-Ray Equipment & Supplies: Medical, Dental, Veterinary	AS
	6530	Hospital Furniture, Equipment, Utensils & Supplies	AS
	6532	Hospital & Surgical Clothing & Related Special Purpose Items	AS
	6540	Opticians' Instruments, Equipment & Supplies	AS
	6545	Medical Sets, Kits & Outfits	AS
	6605	Navigational Instruments	CT
	6610	Flight Instruments	CT
3	6615	Automatic Pilot Mechanism & Airborne Gyro Components	CL
	6620	Engine Instruments	CT

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	FSC Class	Title	Army PICA/SICA
11	6625	Electrical & Electronic Properties Measuring & Testing Instruments	CL
30	6630	Chemical Analysis Instruments	AS, CD
	6635	Physical Properties Testing Equipment	CD
11	6636	Environmental Chambers & Related Equipment	CT
20	6640	Laboratory Equipment & Supplies	AS, CD
11	6645	Time Measuring Instruments	CD
9	6650	Optical Instruments	BF
11	6655	Geophysical & Astronomical Instruments	CD
	6660	Meteorological Instruments & Apparatus	CL
30	6665	Hazard-Detecting Instruments & Apparatus	BF
	6670	Scales & Balances	CD
27	6675	Drafting, Surveying & Mapping Instruments	CD
30	6680	Liquid & Gas Flow, Liquid Level & Mechanical Motion Measuring Instruments	CD
	6685	Pressure, Temperature & Humidity Measuring & Controlling Instruments	CD
	6695	Combination & Miscellaneous Instruments	CL
	6710	Cameras, Motion Picture	CL
	6720	Cameras, Still Picture	CL
	6730	Photographic Projection Equipment	CL
11	6740	Photographic Developing & Finishing Equipment	CL
	6750	Photographic Supplies	CL
	6760	Photographic Equipment & Accessories	CL
	6770	Film, Processed	CL
	6780	Photographic Sets, Kits & Outfits	CL
	6810	Chemicals	CD
	6820	Dyes	CD
30	6830	Gases: Compressed & Liquefied	CD
	6840	Pest Control Agents & Disinfectants	CD
	6850	Miscellaneous Chemical Specialties	CD
	6910	Training Aids	CT
6	6920	Armament Training Devices	BD
30	6930	Operational Training Devices	CT
	6940	Communication Training Devices	CL
	7010	ADPEC Configuration	CL
	7020	ADP Central Processing Unit (CPU, Computer), Analog	CL
	7021	ADP Central Processing Unit (CPU, Computer), Digital	CL
	7022	ADP Central Processing Unit (CPU, Computer), Hybrid	CL
11	7025	ADP Input/Output & Storage Devices	CL
	7030	ADP Software	CL
	7035	ADP Accessorial Equipment	CL
	7040	Punched Card Equipment	CL
	7042	Mini & Micro Computer Devices	CL
	7045	ADP Supplies & Support Equipment	CL
	7050	ADP Components	CL
	7105	Household Furniture	CD
	7110	Office Furniture	CD
	7125	Cabinets, Lockers, Bins & Shelving	CD
	7195	Miscellaneous Furniture & Fixtures	CD
30	7210	Household Furnishings	CA
	7220	Floor Coverings	CD
	7230	Draperies, Awnings & Shades	CD
	7240	Household & Commercial Utility Containers	CD
	7290	Miscellaneous Household & Commercial Furnishings & Appliances	CD

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FSC Class	Title	Army PICA/SICA
7310	Food Cooking, Baking & Serving Equipment	CD
7320	Kitchen Equipment & Appliances	CD
7330	Kitchen Hand Tools & Utensils	CD
7340	Cutlery & Flatware	CD
7350	Tableware	CD
7360	Sets, Kits & Outfits: Food Preparation & Serving	CD
7420	Accounting & Calculating Machines	CD
7430	Typewriters & Office Type Composing Machines	CD
7435	Office Information System Equipment	CD
7450	Office Type Sound Recording & Reproducing Machines	CL
7460	Visible Record Equipment	CD
7490	Miscellaneous Office Machines	CD
7510	Office Supplies	CD
7520	Office Devices & Accessories	CD
7530	Stationery & Record Forms	CD
7540	Standard Forms	CD
7610	Books & Pamphlets	CD
7630	Newspaper & Periodicals	CD
7640	Maps, Atlases, Charts & Globes	CD
7650	Drawings and Specifications	CD
7660	Sheet & Book Music	CD
7670	Microfilm, Processed	CD
7690	Miscellaneous Printed Matter	CD
7710	Musical Instruments	CD
7720	Musical Instrument Parts & Accessories	CD
7730	Phonographs, Radios & Television Sets, Home Type	CD
7740	Phonograph Records	CD
7810	Athletic & Sporting Equipment	CD
7820	Games, Toys & Wheeled Goods	CD
7830	Recreational & Gymnastic Equipment	CD
7910	Floor Polishers & Vacuum Cleaning Equipment	CD
7920	Brooms, Brushes, Mops & Sponges	CD
7930	Cleaning & Polishing Compounds & Preparations	CD
8010	Paints, Dopes, Varnishes & Related Products	CD
8020	Paint & Artists Brushes	CD
8030	Preservative & Sealing Compounds	CD
8040	Adhesives	CD
8105	Bags & Sacks	CD
8110	Drums & Cans	CD
8115	Boxes, Cartons & Crates	CD
8120	Commercial & Industrial Gas Cylinders	CD
8125	Bottles & Jars	CD
8130	Reels & Spools	CL
8135	Packaging & Packing Bulk Materials	CD
8140	Ammunition & Nuclear Ordnance Boxes, Packages & Special Containers	BF
8145	Specialized Shipping & Storage Containers	CT
8305	Textile Fabrics	CA
8310	Yarn & Thread	CA
8315	Notions & Apparel Findings	CA
8320	Padding & Stuffing Material	CA
8325	Fur Materials	CA
8330	Leather	CA

Index

	FSC Class	Title	Army PICA/SICA
	8335	Shoe Findings & Soling Materials	CA
	8340	Tents & Tarpaulins	CA
	8345	Flags & Pennants	CA
	8405	Outerwear, Men's	CA
	8410	Outerwear, Women's	CA
	8415	Clothing, Special Purpose	CA
	8420	Underwear and Nightwear, Men's	CA
	8425	Underwear and Nightwear, Women's	CA
	8430	Footwear, Men's	CA
30	8435	Footwear, Women's	CA
	8440	Hosiery, Handwear & Clothing Accessories, Men's	CA
	8445	Hosiery, Handwear & Clothing Accessories, Women's	CA
	8450	Children's & Infants' Apparel & Accessories	CA
	8455	Badges & Insignia	CA
	8460	Luggage	CA
	8465	Individual Equipment	CA
	8470	Armor, Personal	CA
	8475	Specialized Flight Clothing & Accessories	CT
	8510	Perfume, Toilet Preparations & Powders	CA
	8520	Toilet Soap, Shaving Preparations & Dentifrices	CA
	8530	Personal Toiletry Articles	CA
	8540	Toiletry Paper Products	CA
	8710	Forage & Feed	CD
	8720	Fertilizers	CD
	8730	Seeds & Nursery Stocks	CD
	8810	Live Animals, Raised for Food	CA
	8820	Live Animals, Not Raised for Food	CT
	8905	Meat, Poultry & Fish	CA
	8910	Dairy Foods & Eggs	CA
	8915	Fruits & Vegetables	CA
	8920	Bakery & Cereal Products	CA
	8925	Sugar, Confectionery & Nuts	CA
	8930	Jams, Jellies & Preserves	CA
NA	8935	Soups & Bouillons	CA
	8940	Special Dietary Foods & Food Specialty Preparations	CA
	8945	Food Oil & Fats	CA
	8950	Condiments & Related Products	CA
	8955	Coffee, Tea & Cocoa	CA
	8960	Beverages, Nonalcoholic	CA
	8965	Beverages, Alcoholic	CA
	8970	Composite Food Packages	CA
	8975	Tobacco Products	CA
	9110	Fuels, Solid	CD
	9130	Liquid Propellants & Fuels, Petroleum Base	CD
	9135	Liquid Propellants Fuels & Oxidizers, Chemical Base	BD
	9140	Fuel Oils	CD
	9150	Oils & Grease: Cutting, Lubricating & Hydraulic	CD
	9160	Miscellaneous Waxes, Oils & Fats	CD
	9310	Paper & Paperboard	CD
	9320	Rubber Fabricated Materials	CD
30	9330	Plastics Fabricated Materials	CD
	9340	Glass Fabricated Materials	CD

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	FSC Class	Title	Army PICA/SICA
	9350	Refractories & Fire Surfacing Materials	CD
30	9390	Miscellaneous Fabricated Nonmetallic Materials	CD
	9410	Crude Grades of Plant Materials	CA
	9420	Fibers: Vegetable, Animal & Synthetic	CA
	9430	Miscellaneous Crude Animal Products, Inedible	CA
	9440	Miscellaneous Crude Agricultural & Forestry Products	CD
	9450	Nometallic Scrap, Except Textile	CD
	9505	Wire, Nonelectrical, Iron & Steel	CD
	9510	Bars & Rods, Iron & Steel	CD
	9515	Plate, Sheet, Strip & Foil: Iron & Steel	CD
	9520	Structural Shapes, Iron & Steel	CD
	9525	Wire, Nonelectrical, Nonferrous Base Metal	CD
	9530	Bars & Rods, Nonferrous Base Metal	CD
	9535	Plate, Sheet, Strip & Foil: Nonferrous Base Metal	CD
	9540	Structural Shapes, Nonferrous Base Metal	CD
	9545	Plate, Sheet, Strip, Foil & Wire: Precious	CD
NA	9610	Ores	CD
	9620	Minerals, Natural & Synthetic	CD
	9630	Additive Metal Materials & Master Alloys	CD
	9640	Iron & Steel Primary & Semifinished Products	CD
	9650	Nonferrous Base Metal Refinery & Intermediate Forms	CD
	9660	Precious Metals Primary Forms	CD
	9670	Iron & Steel Scrap	CD
	9680	Nonferrous Metal Scrap	CD
	9905	Signs, Advertising Displays & Identification Plates	CD
	9910	Jewelry	CD
	9915	Collectors' Items	CD
	9920	Smokers' Articles & Matches	CD
	9925	Ecclesiastical Equipment, Furnishings & Supplies	CD
	9930	Memorials: Cemeterial & Mortuary Equipment & Supplies	CD
	9999	Miscellaneous Items	CD

APPENDIX D

SENSITIVITY ANALYSIS OF ERROR STATISTICS AND DISTRIBUTIONS

ERROR STATISTICS - RUN 1 - DATA SAMPLE 1+10

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX$<********** EDQ FILT ON (RATIOS: Q= 2.0, $= 1.3; GS= 3.0) MIN 365 DAYS, BLOCKS 1(+10)

INDEX	NAME	UNIT PRICE ERROR MEAN	UNIT PRICE ERROR STD-DEV	QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-31.02	$1057.48	57746	-0.12%	30.45%	684	$1462.53	$3427.18	-2.12	22.31
2	AIRCRAFT ENGINE	$-176.65	$1049.65	7600	0.27%	30.42%	133	$1614.13	$4125.74	-10.94	21.38
3	AVIONICS	$181.80	$629.50	2707	5.80%	46.07%	24	$1334.03	$3181.96	13.63	17.29
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$-45621.05	$13193.32	471	-3.61%	8.38%	5	$407062.24	$615104.97	-11.21	3.24
6	COMBIN ORD &ACCESR	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$41.03	$89.95	3933	20.10%	38.96%	30	$319.56	$913.82	12.84	29.50
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$-109.95	$0.00	6	-14.94%	0.00%	1	$735.86	$0.00	-14.94	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$1122.53	$0.00	6	51.00%	0.00%	1	$2200.96	$0.00	51.00	0.00
16	INTRNAL COMBST ENG	$15.28	$489.98	716	-2.19%	28.18%	32	$2161.24	$4227.71	0.71	23.53
17	MOTOR VEH PARTS	$-165.85	$556.98	439	-4.91%	27.89%	32	$1354.97	$1902.41	-12.24	25.29
18	TACOM - TOOLING	$371.59	$1012.04	3230	11.78%	44.01%	87	$2544.95	$3414.89	14.60	18.81
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$-495.81	$853.93	4046	-1.30%	10.73%	3	$7502.79	$1641.54	-6.61	9.95
22	AIR COND - HEATERS	$-250.16	$704.85	4753	-0.88%	25.96%	27	$3339.91	$1933.40	-7.49	15.02
23	AVL BRDG/TANK/OTHR	$-105.69	$1242.21	1054	-0.52%	25.59%	14	$5056.06	$2337.60	-2.09	23.37
24	POWER PLANT (MUST)	$-9581.83	$8266.84	358	-4.49%	12.49%	11	$62436.56	$18346.35	-15.35	11.73
25	FIREFIHT/FRKLF TRK	$81.04	$655.71	162	23.29%	39.56%	13	$1707.71	$2291.46	4.75	28.73
26	PUMPS/COMPRESSORS	$22.72	$201.11	5335	2.17%	22.68%	27	$428.43	$783.70	5.30	18.79
27	THEO/TBL E/SURV IN	$65.39	$224.37	499	18.56%	30.73%	17	$611.61	$781.77	10.69	24.20
28	GEN/LIGHT SETS/UTL	$13.14	$2819.24	34630	1.65%	21.19%	48	$4121.95	$12948.80	0.32	15.39
29	RAILROAD EQUIPMENT	$-341.24	$267.39	12	-18.91%	20.96%	3	$1345.37	$1542.78	-25.36	23.37
30	OTHER TRP SPT ITEM	$-9.26	$225.85	10065	4.61%	32.20%	116	$691.04	$934.94	-1.34	23.94
31	BEA - AVIATION	$-50.41	$1190.19	37949	1.24%	31.64%	476	$1664.80	$4370.52	-3.03	21.32
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$38.24	$76.41	3788	26.17%	46.20%	19	$271.15	$782.87	14.10	32.57
34	BEA - MISSILES	$-93.21	$0.00	6	-12.67%	0.00%	1	$735.86	$0.00	-12.67	0.00
35	BEA - VEHICLES	$326.90	$689.34	2934	8.44%	44.23%	79	$2475.26	$3364.45	13.21	17.24
36	BEA - OTHER EQUIP	$-499.17	$3295.54	16662	0.23%	25.85%	161	$7329.63	$15924.45	-6.81	15.59
37	BEA/OSD AVIATION	$-639.63	$7685.14	68524	-0.90%	31.11%	846	$4262.16	$34075.22	-15.01	15.68
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$36.97	$89.50	3933	17.43%	39.54%	30	$319.56	$913.82	11.57	30.25
40	BEA/OSD MISSILES	$-93.21	$0.00	6	-12.67%	0.00%	1	$735.86	$0.00	-12.67	0.00
41	BEA/OSD VEHICLES	$233.75	$815.56	4391	4.41%	38.21%	152	$2362.94	$3462.23	9.89	21.07
42	BEA/OSD OTHR EQUIP	$-50.81	$2725.30	60914	1.41%	27.83%	279	$3718.26	$11044.72	-1.37	17.78
43	OSD-MSLS/ACFT/WTCV	$-409.27	$4787.24	72921	-0.41%	31.18%	999	$4147.51	$33045.94	-9.87	14.11
44	OSD-AMMO/CE/OTHER	$-64.61	$2671.97	64847	2.74%	29.37%	309	$3512.13	$10737.61	-1.84	17.80
45	M S C INDICES	$-210.76	$3273.54	137768	2.03%	31.96%	1308	$3848.44	$25147.31	-5.48	15.54
46	BEA (ONLY) INDICES	$-148.79	$1975.33	61339	2.42%	32.85%	736	$3156.19	$9376.84	-4.71	18.33
47	BEA/OSD INDICES	$-332.11	$5725.20	137768	0.62%	31.73%	1308	$3848.44	$25147.31	-8.63	18.28
48	O S D INDICES	$-247.04	$3939.60	137768	0.34%	30.79%	1308	$3848.44	$25147.31	-6.42	16.30
49	G N P	$-289.85	$4660.88	137768	-1.16%	30.41%	1308	$3848.44	$25147.31	-7.53	17.65
50	NO UPDATING	$-770.92	$6164.87	137768	-15.77%	28.12%	1308	$3848.44	$25147.31	-20.03	16.72

ERROR DISTRIBUTIONS - RUN 1 - DATA SAMPLE 1+10

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EQ0 FILT ON (RATIOS: 0= 2.0, S= 1.3; GS= 3.0) MIN 365 DAYS, BLOCKS 1(+10)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	39	76	84	0	0	1	4	8	14	36	54	75	90	93	93	99	99	99	99	99	99	99
2	AIRCRAFT ENGINE	26	44	90	0	0	0	3	7	48	56	72	83	93	97	97	98	99	99	99	100	100	100
3	AVIONICS	2	79	89	0	0	0	5	5	6	8	8	11	86	94	96	99	99	99	99	99	99	99
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	5	100	100	0	0	0	0	0	0	94	99	100	100	100	100	100	100	100	100	100	100	100
6	COMBIN ORD &ACCESR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	68	81	84	0	0	0	0	0	3	7	72	82	84	87	87	97	97	97	97	100	100	
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	100	100	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100
16	INTRNAL COMBST ENG	40	61	67	0	0	0	2	20	21	30	44	71	82	87	88	99	99	100	100	100	100	100
17	MOTOR VEH PARTS	24	49	69	0	0	7	17	23	42	59	62	83	92	92	98	99	100	100	100	100	100	100
18	TACOM - TOOLING	30	60	86	0	0	0	0	1	1	7	22	37	62	87	99	99	99	99	99	99	99	99
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	35	100	100	0	0	0	0	0	0	53	53	88	100	100	100	100	100	100	100	100	100	100
22	AIR COND - HEATERS	44	91	93	0	0	0	3	4	7	46	53	91	98	98	98	98	100	100	100	100	100	100
23	AVL BRDG/TANK/OTHR	6	52	87	0	0	0	0	7	8	54	60	60	60	94	99	100	100	100	100	100	100	100
24	POWER PLANT (MUST)	36	54	100	0	0	0	0	0	45	63	99	99	99	100	100	100	100	100	100	100	100	100
25	FIREFIHT/FRKLF TRK	39	69	69	0	0	6	6	6	6	33	73	73	75	75	75	91	98	99	99	99	99	99
26	PUMPS/COMPRESSORS	22	57	92	0	0	0	4	4	12	19	33	42	70	97	99	99	100	100	100	100	100	100
27	THEO/TBL E/SURV IN	32	59	85	0	0	0	0	0	3	25	42	57	63	85	87	87	99	100	100	100	100	100
28	GEN/LIGHT SETS/UTL	61	88	98	0	0	1	1	1	1	13	54	74	90	99	99	99	99	100	100	100	100	100
29	RAILROAD EQUIPMENT	48	48	48	0	0	0	51	51	51	51	60	100	100	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	44	68	85	0	0	1	3	8	22	34	44	78	91	94	95	97	99	99	99	100	100	100
31	BEA - AVIATION	42	71	86	0	0	1	3	9	17	34	56	77	89	96	98	99	99	99	99	99	99	99
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	73	77	83	0	0	0	0	0	1	4	9	78	78	83	85	85	97	97	97	97	99	99
34	BEA - MISSILES	0	100	100	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100
35	BEA - VEHICLES	21	85	91	0	0	0	1	1	2	7	17	28	87	93	94	98	99	99	99	99	99	99
36	BEA - OTHER EQUIP	43	75	90	0	0	0	0	9	11	39	78	83	87	99	99	99	99	99	99	99	99	99
37	BEA/OSD AVIATION	17	52	95	0	0	0	1	3	45	74	83	92	97	98	99	99	99	99	99	99	99	99
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	73	80	85	0	0	0	0	0	1	6	18	80	82	85	87	87	97	97	97	97	100	100
40	BEA/OSD MISSILES	0	100	100	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100
41	BEA/OSD VEHICLES	23	76	83	0	0	0	2	3	6	16	27	39	82	87	94	98	99	99	99	99	99	99
42	BEA/OSD OTHR EQUIP	40	76	88	0	0	0	1	6	10	26	57	67	86	95	99	99	99	99	99	100	100	100
43	OSD-MSLS/ACFT/MTCV	17	89	94	0	0	0	1	4	6	73	82	91	95	98	99	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	39	82	88	0	0	0	1	6	10	27	57	67	93	95	99	99	99	99	99	99	99	99
45	M S C INDICES	31	87	96	0	0	0	1	2	6	53	72	85	94	98	98	99	99	99	99	99	99	99
46	BEA (ONLY) INDICES	42	74	89	0	0	0	1	9	13	36	68	79	88	98	99	99	99	99	99	99	99	99
47	BEA/OSD INDICES	27	63	92	0	0	0	1	4	29	52	71	80	92	97	99	99	99	99	99	99	99	99
48	O S D INDICES	27	86	92	0	0	0	1	5	8	53	71	81	94	97	99	99	99	99	99	99	99	99
49	G N P	18	84	92	0	0	0	1	4	8	63	71	82	92	97	99	99	99	99	99	99	99	100
50	NO UPDATING	24	33	77	0	0	2	7	22	65	74	85	98	99	99	99	99	99	99	99	99	99	99

ERROR STATISTICS - RUN 2 - DATA SAMPLE 5+10

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX$<********** EOQ FILT ON (RATIOS: Q= 2.0,$= 1.3;GS= 3.0) MIN 365 DAYS, BLOCKS 5(+10)

INDEX NAME	UNIT PRICE ERROR MEAN	UNIT PRICE ERROR STD-DEV	ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1 AIR FRAME	$-59.59	$1155.59	64663	2.82%	36.01%	561	$1689.39	$3896.57	-3.53	24.43
2 AIRCRAFT ENGINE	$-28.35	$1202.52	14146	3.07%	27.37%	173	$2547.07	$7233.12	-1.11	17.67
3 AVIONICS	$-0.16	$33.46	393884	-2.31%	25.13%	46	$32.38	$143.06	-0.49	19.27
4 AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5 AIR VEH INCLAVIONC	$176348.72	$211364.37	24	1.24%	17.09%	4	$1599797.82	$134618.78	11.02	12.82
6 COMBIN ORD &ACCESR	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
7 AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8 AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9 SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10 RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11 COMMO & ELECTRONIC	$5.72	$31.13	68788	2.96%	33.32%	38	$40.28	$82.58	14.20	31.16
12 MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13 MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14 COMB GRNC SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15 CONSTRUCTION EQUIP	$9.82	$305.76	7	-0.28%	22.47%	2	$1341.25	$254.67	0.73	22.45
16 INTRNAL COMBST ENG	$13.02	$92.05	17636	-2.56%	18.26%	39	$124.57	$486.32	10.46	24.25
17 MOTOR VEH PARTS	$-52.72	$163.62	1964	-3.29%	18.34%	32	$1042.35	$807.06	-5.06	14.69
18 TACOM - TOOLING	$242.37	$1088.29	1700	10.92%	40.67%	119	$2409.01	$3997.85	10.06	26.15
19 TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20 OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21 COLLAPSIBLE TANKS	$-421.13	$656.20	121	-3.39%	31.96%	10	$1971.26	$1119.59	-21.36	35.53
22 AIR COND - HEATERS	$-268.91	$1605.49	1702	1.62%	30.40%	17	$2252.56	$6616.27	-11.94	15.64
23 AVL BRDG/TANK/OTHR	$-16556.69	$56239.15	1025	3.42%	50.35%	22	$85027.27	$241164.79	-19.47	13.70
24 POWER PLANT (NUST)	$-176.14	$665.55	33	-6.90%	17.41%	7	$1876.78	$2598.30	-9.39	16.52
25 FIREFIHT/FRKLF TRK	$-294.46	$2487.04	440	-6.63%	15.73%	8	$6163.89	$30183.08	-4.78	12.63
26 PUMPS/COMPRESSORS	$242.44	$557.61	301	2.76%	33.62%	13	$2032.36	$2299.85	11.93	18.86
27 TMED/TBL &/SURV IN	$276.34	$926.07	24	4.33%	29.03%	6	$2319.81	$3287.78	11.91	22.49
28 GEN/LIGHT SETS/UTL	$-97.81	$1010.41	730	1.97%	22.73%	24	$3736.10	$3502.30	-2.62	23.49
29 RAILROAD EQUIPMENT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
30 OTHER TRP SPT ITEM	$16.77	$245.36	10201	-0.12%	28.31%	119	$1287.06	$1108.72	1.30	17.20
31 BEA - AVIATION	$6.13	$3228.90	369808	4.80%	34.58%	488	$345.59	$13075.50	1.77	23.90
32 BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33 BEA - ELECTRONICS	$6.40	$30.63	66913	1.57%	33.22%	30	$40.11	$68.51	15.96	33.40
34 BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35 BEA - VEHICLES	$40.24	$296.60	16998	5.75%	34.55%	111	$340.93	$1422.24	11.80	24.14
36 BEA - OTHER EQUIP	$-1693.84	$17625.33	7110	0.10%	30.56%	156	$13871.14	$96186.08	-13.65	14.95
37 BEA/OSD AVIATION	$4.93	$2862.58	472717	2.21%	34.30%	784	$415.52	$11616.01	1.19	22.53
38 BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39 BEA/OSD ELECTRONIC	$6.16	$32.22	68788	2.22%	33.77%	38	$40.28	$82.58	15.30	33.45
40 BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41 BEA/OSD VEHICLES	$22.07	$311.90	21307	6.54%	33.66%	192	$391.83	$1397.89	5.63	25.72
42 BEA/OSD OTHR EQUIP	$-938.99	$12367.96	14577	-2.00%	29.38%	226	$7582.04	$67664.38	-12.38	15.79
43 OSD-MSLS/ACFT/WTCV	$-2.18	$2102.02	494024	2.02%	32.98%	976	$414.49	$11366.46	-0.53	21.70
44 OSD-AMMO/CE/OTHER	$-179.53	$5672.07	83365	-1.74%	29.85%	264	$1359.01	$28439.27	-13.21	16.98
45 M S C INDICES	$-28.73	$3075.04	577389	2.65%	33.35%	1240	$550.87	$15080.73	-5.22	21.79
46 BEA (ONLY) INDICES	$-21.89	$3635.63	460829	3.88%	33.82%	785	$509.74	$16817.46	-4.29	22.35
47 BEA/OSD INDICES	$-18.12	$3255.21	577389	1.80%	33.40%	1240	$550.87	$15080.73	-3.29	21.76
48 O S D INDICES	$-27.78	$2903.37	577389	1.22%	32.37%	1240	$550.87	$15080.73	-5.04	21.04
49 G N P	$-33.09	$2910.40	577389	-0.50%	31.48%	1240	$550.87	$15080.73	-6.01	21.25
50 NO UPDATING	$-116.62	$5480.17	577389	-15.06%	28.50%	1240	$550.87	$15080.73	-21.17	24.04

ERROR DISTRIBUTIONS - RUN 2 - DATA SAMPLE 5+10

CMND: TSAR .TAPE: PMR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS: Q= 2.0, S= 1.3; GS= 3.0) MIN 365 DAYS, BLOCKS 5(+10)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	30	65	79	0	0	1	9	15	21	42	56	73	86	94	95	96	99	99	99	99	99	99
2	AIRCRAFT ENGINE	31	79	95	0	0	0	1	2	15	29	46	60	94	98	98	99	99	99	99	99	99	99
3	AVIONICS	4	72	99	0	0	0	0	0	1	49	49	53	73	99	99	99	99	99	99	99	99	99
4	AIR VEH EXCL AVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCL AVIONC	0	72	100	0	0	0	0	0	0	17	17	17	72	100	100	100	100	100	100	100	100	100
6	COMBIN ORD & ACCESR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMD & ELECTRONIC	60	80	83	0	0	0	0	0	3	7	8	67	83	84	84	85	85	99	100	100	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	0	0	100	0	0	0	0	0	47	47	47	47	47	100	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	30	50	63	0	0	0	0	4	16	19	31	50	67	68	68	99	99	99	99	99	99	99
17	MOTOR VEH PARTS	47	82	97	0	0	0	0	0	15	40	51	87	98	98	100	100	100	100	100	100	100	100
18	TACOM - TOOLING	11	38	84	0	0	0	5	6	16	21	26	33	54	90	96	97	98	98	99	99	100	100
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	22	25	25	0	0	12	54	54	54	57	57	80	80	80	97	100	100	100	100	100	100	100
22	AIR COND - HEATERS	19	63	94	0	0	0	0	0	30	72	73	92	94	94	99	99	99	100	100	100	100	100
23	AVL BRDG/TANK/OTHR	9	26	94	0	0	5	5	5	71	89	89	98	98	99	99	99	99	99	99	99	99	99
24	POWER PLANT (MUST)	40	40	100	0	0	0	0	0	48	48	86	88	88	100	100	100	100	100	100	100	100	100
25	FIREFIHT/FRKLF TRK	76	80	92	0	0	0	0	7	19	20	29	96	100	100	100	100	100	100	100	100	100	100
26	PUMPS/COMPRESSORS	5	87	91	0	0	0	0	2	6	10	10	15	93	93	93	93	100	100	100	100	100	100
27	THEO/TBL E/SURV IN	12	14	88	0	0	0	10	10	10	12	25	25	25	99	99	100	100	100	100	100	100	100
28	GEN/LIGHT SETS/UTL	33	82	87	0	0	10	11	11	14	23	41	56	96	98	98	100	100	100	100	100	100	100
29	RAILROAD EQUIPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	OTHER TRP SPT ITEM	46	84	96	0	0	0	1	2	5	26	37	72	90	98	99	99	99	99	99	99	99	99
31	BEA - AVIATION	32	64	78	0	0	1	1	7	18	27	51	59	83	86	88	99	99	99	99	99	99	99
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	61	81	82	0	0	0	0	1	2	5	6	67	83	83	84	85	85	99	99	99	99	99
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	22	70	79	0	0	0	0	2	11	18	24	40	81	82	82	86	99	99	99	99	99	100
36	BEA - OTHER EQUIP	26	89	93	0	0	4	4	4	8	69	93	96	98	98	99	99	99	99	99	100	100	100
37	BEA/OSD AVIATION	38	69	81	0	0	0	1	7	16	28	47	66	86	89	90	98	99	99	99	99	99	99
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	60	79	82	0	0	0	0	1	3	7	9	67	83	84	84	85	85	99	100	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	23	67	80	0	0	0	2	6	18	26	35	50	86	86	87	90	99	99	99	99	99	99
42	BEA/OSD OTHR EQUIP	30	88	93	0	0	4	4	4	8	64	88	94	97	98	99	99	99	99	99	99	99	99
43	OSD-MSLS/ACFT/MICV	35	68	83	0	0	0	5	10	17	33	47	68	85	94	97	98	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	16	88	93	0	0	4	4	4	8	77	86	94	97	98	99	99	99	99	99	100	100	100
45	M S C INDICES	21	58	89	0	0	2	5	7	30	49	57	70	88	97	97	98	99	99	99	99	99	99
46	BEA (ONLY) INDICES	30	75	84	0	0	2	2	6	13	44	67	74	89	91	92	98	99	99	99	99	99	99
47	BEA/OSD INDICES	35	76	85	0	0	2	2	6	13	40	60	76	90	92	93	98	99	99	99	99	99	99
48	O S D INDICES	28	75	87	0	0	2	5	8	13	49	61	77	89	96	97	99	99	99	99	99	99	99
49	G N P	23	76	86	0	0	2	5	10	16	51	63	74	92	97	98	98	99	99	99	99	99	100
50	NO UPDATING	25	44	57	0	0	6	33	41	52	63	77	88	97	98	99	99	99	99	99	99	100	100

ERROR STATISTICS - RUN 3 - FULL RUN

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX$<********** EQQ FILT ON (RATIOS:Q= 2.0,$= 1.3;G$= 3.0) MIN 365 DAYS,BLOCKS 1(+1)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-12.90	$940.69	561269	1.40%	33.35%	6004	$1625.29	$4393.85	-0.79	23.54
2	AIRCRAFT ENGINE	$-160.42	$3709.11	199990	1.23%	29.20%	1540	$2923.55	$26327.47	-5.49	17.95
3	AVIONICS	$-2.39	$186.56	421195	-1.91%	27.90%	257	$120.30	$848.76	-1.99	23.16
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$-3857.31	$153364.01	2514	-4.06%	14.05%	29	$483827.44	$619530.07	-0.80	14.89
6	COMBIN ORD &ACCESR	$33.80	$236.34	341	-18.23%	23.73%	3	$1230.22	$162.81	2.75	20.57
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$1362.77	$1815.01	77	24.86%	30.05%	5	$5810.01	$1242.14	23.46	27.53
10	RIFL REP CENTRFIRE	$54.71	$36.57	504	6.99%	18.78%	6	$227.81	$84.87	24.01	16.90
11	COMMO & ELECTRONIC	$13.12	$184.30	98200	4.36%	31.76%	330	$251.16	$716.68	5.22	26.81
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$-5.45	$98.69	74	1.27%	20.89%	6	$281.38	$449.18	-1.94	21.70
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$-101.55	$1017.28	557	7.94%	24.41%	30	$4776.72	$5478.04	-2.13	16.47
16	INTRNAL COMBST ENG	$-40.91	$189.17	125585	1.40%	25.39%	275	$1190.09	$1363.40	-3.44	12.69
17	MOTOR VEH PARTS	$-64.63	$476.22	12927	1.16%	32.18%	230	$989.12	$1595.05	-6.53	30.81
18	TACOM - TOOLING	$219.04	$3913.10	28999	10.38%	40.83%	1244	$3605.73	$14661.53	6.07	31.42
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TR/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$6.68	$876.07	12788	2.91%	27.72%	35	$4183.31	$3024.86	0.16	28.40
22	AIR COND - HEATERS	$4.41	$1049.40	14674	1.64%	32.22%	149	$3206.23	$3232.10	0.14	21.85
23	AVL BRDG/TANK/OTHR	$-850.69	$13190.53	20591	6.97%	39.72%	159	$6658.95	$57682.39	-12.78	19.90
24	POWER PLANT (NUST)	$-3871.54	$6963.74	905	-5.90%	18.38%	67	$25890.07	$31761.01	-14.95	12.19
25	FIREFIHT/FRKLF TRK	$-505.88	$7654.16	2156	3.79%	27.76%	71	$16655.08	$38072.85	-3.04	17.75
26	PUMPS/COMPRESSORS	$38.70	$485.63	18639	4.64%	36.08%	225	$1331.50	$1900.96	2.91	23.64
27	THEO/TBL E/SURV IN	$-197.53	$1867.06	4464	12.98%	36.87%	78	$2526.86	$10971.09	-7.82	19.90
28	GEN/LIGHT SETS/UTL	$-229.53	$2070.63	107196	0.35%	25.01%	418	$3778.88	$9177.85	-6.07	17.43
29	RAILROAD EQUIPMENT	$15870.01	$41779.22	384	4.64%	33.52%	43	$59931.64	$69699.80	26.48	24.99
30	OTHER TRP SPT ITEM	$42.72	$647.09	416023	4.06%	34.25%	1324	$630.13	$2330.92	6.78	22.17
31	BEA - AVIATION	$-56.94	$5140.49	753180	1.97%	33.13%	4539	$1754.13	$33150.61	-3.25	18.79
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$17.47	$139.13	90732	4.50%	35.66%	216	$188.45	$437.86	9.27	29.54
34	BEA - MISSILES	$-93.21	$0.00	6	-12.67%	0.00%	1	$735.86	$0.00	-12.67	0.00
35	BEA - VEHICLES	$130.47	$1749.95	57036	8.55%	37.98%	980	$1782.67	$3441.43	7.32	31.79
36	BEA - OTHER EQUIP	$-46.73	$2866.58	443229	0.13%	29.92%	1660	$1686.07	$13656.02	-2.77	20.11
37	BEA/OSD AVIATION	$-82.03	$5253.06	1184968	0.23%	32.58%	7830	$2332.48	$37875.81	-3.52	17.73
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$12.56	$192.83	98200	3.07%	32.18%	330	$251.16	$716.68	5.00	28.78
40	BEA/OSD MISSILES	$-15.25	$86.81	74	-3.70%	19.80%	6	$281.38	$449.18	-5.42	19.35
41	BEA/OSD VEHICLES	$2.18	$1752.00	168068	7.00%	37.44%	1779	$1603.32	$6297.30	0.14	24.33
42	BEA/OSD OTHR EQUIP	$-29.88	$2647.46	598742	0.70%	31.64%	2583	$1710.79	$12291.59	-1.75	22.03
43	OSD-MSLS/ACFT/WTCV	$-63.33	$6358.69	1353110	1.11%	32.57%	9615	$2241.80	$35514.72	-2.82	18.36
44	OSD-AMMO/CE/OTHER	$-38.92	$2560.16	696942	0.66%	31.42%	2913	$1505.13	$11407.27	-2.59	22.19
45	M S C INDICES	$-34.70	$5764.67	2050052	2.73%	33.36%	12528	$1991.36	$29611.84	-1.74	20.13
46	BEA (ONLY) INDICES	$-40.59	$4201.05	1344183	2.50%	33.30%	7396	$1627.21	$26037.19	-2.49	20.28
47	BEA/OSD INDICES	$-55.36	$4272.22	2050052	1.36%	33.19%	12528	$1991.36	$29611.84	-2.78	19.50
48	O S D INDICES	$-55.03	$5377.33	2050052	1.00%	32.31%	12528	$1991.36	$29611.84	-2.76	19.42
49	G N P	$-71.84	$5042.51	2050052	-0.46%	31.80%	12528	$1991.36	$29611.84	-3.61	20.02
50	NO UPDATING	$-314.06	$6875.12	2050052	-15.18%	28.93%	12528	$1991.36	$29611.84	-15.77	20.55

ERROR DISTRIBUTIONS - RUN 3 - FULL RUN

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS:Q= 2.0,S= 1.3;GS= 3.0) MIN 365 DAYS,BLOCKS 1(+1)

INDEX NAME	DOLLARS +/-10%	WITHIN +/-20%	ERROR +/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	42	71	85	0	0	1	3	7	16	33	54	75	87	92	94	97	99	99	99	99	99	99
2 AIRCRAFT ENGINE	57	74	90	0	0	2	3	6	20	28	73	86	94	97	98	99	99	99	99	99	100	100
3 AVIONICS	15	50	86	0	0	0	4	11	24	43	47	59	74	97	98	99	99	99	99	99	99	100
4 AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH INCLAVIONC	39	85	100	0	0	0	0	0	3	33	63	73	88	100	100	100	100	100	100	100	100	100
6 COMBIN BRD &ACCESR	0	79	87	0	0	0	12	12	20	20	20	20	100	100	100	100	100	100	100	100	100	100
7 AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SIGHT & FIRECONTRL	58	58	58	0	0	0	0	0	0	0	0	58	58	58	84	84	84	100	100	100	100	100
10 RIFL REP CENTRFIRE	8	18	18	0	0	0	0	0	0	10	12	18	18	18	99	99	99	99	99	99	99	99
11 COMMO & ELECTRONIC	44	70	78	0	0	2	4	7	11	18	43	63	81	85	88	95	96	99	99	99	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	13	59	86	0	0	0	0	0	26	47	53	61	86	86	100	100	100	100	100	100	100	100
14 COMB &MND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	29	87	89	0	0	0	0	2	4	46	53	75	91	92	98	99	99	100	100	100	100	100
16 INTRNAL COMBST ENG	84	87	88	0	0	0	0	11	11	13	47	97	98	99	99	99	99	99	99	99	99	100
17 MOTOR VEH PARTS	32	55	76	0	0	9	15	17	30	43	57	75	85	94	96	98	98	99	99	99	99	100
18 TACOM - TOOLING	22	55	79	0	0	1	3	11	13	29	40	52	69	91	95	96	98	98	98	98	98	99
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	39	81	93	0	0	0	0	0	12	43	51	82	94	94	95	95	95	99	99	99	99	99
22 AIR COND - HEATERS	36	65	85	0	0	0	4	5	9	34	51	70	74	90	98	98	99	99	99	99	99	99
23 AVL BRDG/TANK/OTHR	11	39	93	0	0	3	5	5	54	73	74	85	94	99	99	99	99	99	99	99	99	99
24 POWER PLANT (MUST)	35	54	99	0	0	0	0	0	44	63	98	99	99	99	99	99	100	100	100	100	100	100
25 FIREFINT/FWALF TRK	70	77	85	0	0	1	1	13	17	18	33	89	95	99	99	99	99	99	99	99	99	99
26 PUMPS/COMPRESSORS	35	59	87	0	0	0	1	6	22	28	39	63	82	94	95	95	99	99	99	99	99	99
27 THEO/TBL E/SURV IN	8	74	89	0	0	1	1	8	13	69	74	78	87	97	98	98	99	99	99	99	99	99
28 GEN/LIGHT SETS/UTL	49	69	93	0	0	1	1	5	22	30	69	79	92	99	99	99	99	99	99	100	100	100
29 RAILROAD EQUIPMENT	25	26	93	0	0	0	0	0	0	0	20	25	26	93	93	93	93	93	100	100	100	100
30 OTHER TRP SPT ITEM	44	76	85	0	0	1	2	4	7	16	26	60	83	90	95	95	99	99	99	99	99	99
31 BEA - AVIATION	49	78	90	0	0	0	2	5	14	32	58	82	92	95	97	99	99	99	99	99	99	99
32 BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 BEA - ELECTRONICS	30	64	78	0	0	1	2	4	14	26	36	57	79	82	84	94	95	99	99	99	100	100
34 BEA - MISSILES	0	100	100	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100
35 BEA - VEHICLES	31	50	77	0	0	1	2	3	21	24	35	56	72	80	95	97	98	98	98	98	98	99
36 BEA - OTHER EQUIP	41	68	89	0	0	0	1	5	17	34	62	75	86	94	98	98	99	99	99	99	99	99
37 BEA/OSD AVIATION	56	79	92	0	0	0	2	4	14	30	56	87	94	96	98	99	99	99	99	99	99	99
38 BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 BEA/OSD ELECTRONIC	39	66	78	0	0	3	5	7	15	25	42	64	82	85	88	95	96	99	99	99	100	100
40 BEA/OSD MISSILES	24	59	86	0	0	0	0	0	26	61	61	86	86	86	99	99	99	99	99	99	99	99
41 BEA/OSD VEHICLES	46	73	85	0	0	1	1	5	13	32	45	79	86	90	97	98	99	99	99	99	99	99
42 BEA/OSD OTHR EQUIP	40	67	87	0	0	1	2	6	17	32	58	73	85	93	98	98	99	99	99	99	99	100
43 OSD-MSLS/ACFT/MTCV	51	78	91	0	0	0	2	5	11	33	56	84	90	97	98	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	41	69	86	0	0	1	2	7	19	34	59	75	88	93	97	98	99	99	99	99	99	99
45 M S C INDICES	44	74	91	0	0	1	2	4	14	31	59	76	88	96	97	98	99	99	99	99	99	99
46 BEA (ONLY) INDICES	45	73	89	0	0	0	2	5	16	33	58	79	89	94	97	98	99	99	99	99	99	99
47 BEA/OSD INDICES	51	76	90	0	0	0	2	5	15	31	55	83	91	95	97	98	99	99	99	99	99	99
48 O S D INDICES	48	76	90	0	0	0	2	5	13	33	57	82	89	96	98	98	99	99	99	99	99	99
49 G N P	42	78	88	0	0	1	2	7	14	36	57	78	92	96	98	98	99	99	99	99	99	99
50 NO UPDATING	37	57	76	0	0	5	12	22	39	56	82	94	97	98	99	99	99	99	99	99	99	100

ERROR STATISTICS - RUN 4 - $5000 < $MAX

CMND: TSAR ,TAPE: PHR UP> 1.00 5000.00<MAXS<********** EQQ FILT ON (RATIOS: Q= 2.0,S= 1.3,G= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX	NAME	UP RICE ERROR MEAN	UP RICE ERROR STD-DEV	QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-340.59	$2302.23	5871	-4.82%	25.34%	85	$13833.66	$10836.51	-2.46	15.53
2	AIRCRAFT ENGINE	$-10036.10	$26477.67	1191	2.42%	38.15%	28	$129381.10	$227580.11	-7.76	8.71
3	AVIONICS	$-7233.67	$0.02	123	-46.28%	0.00%	1	$15630.74	$0.00	-46.28	0.00
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$1311060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$75.58	$798.00	1465	1.63%	53.82%	3	$576.46	$1131.09	13.11	51.54
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$164.87	$119.97	125	-1.02%	5.68%	2	$4224.94	$42.68	3.90	2.83
16	INTRNAL COMBST ENG	$721.52	$212.07	931	10.04%	4.77%	4	$8989.86	$248.27	8.03	2.18
17	MOTOR VEH PARTS	$517.85	$860.25	13	7.71%	8.22%	2	$11118.47	$154.94	4.66	7.63
18	TACOM - TOOLING	$159.87	$2096.29	269	2.05%	36.44%	30	$9589.36	$8070.16	1.67	19.95
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
22	AIR COND - HEATERS	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
23	AVL BRDG/TANK/OTHR	$-2.94	$21.40	8226	-3.47%	14.32%	6	$120.94	$34.45	-2.43	14.28
24	POWER PLANT (MUST)	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
25	FIREFIHT/FRKLF TRK	$-807.44	$2499.17	145	-6.83%	13.61%	3	$14089.63	$8171.91	-5.73	8.00
26	PUMPS/COMPRESSORS	$1808.67	$0.00	9	24.51%	0.00%	1	$7379.91	$0.00	24.51	0.00
27	THEO/TBL E/SURV IN	$528.78	$0.00	64	10.75%	0.00%	1	$4918.76	$0.00	10.75	0.00
28	GEN/LIGHT SETS/UTL	$-177.26	$985.83	8988	2.66%	10.26%	8	$11217.20	$3596.04	-1.58	7.70
29	RAILROAD EQUIPMENT	$31039.78	$26602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$-2584.12	$4424.83	510	-4.32%	21.29%	26	$14315.97	$22424.84	-18.05	10.62
31	BEA - AVIATION	$-2249.99	$58915.92	3592	0.72%	36.09%	69	$77564.24	$32694.44	-2.90	14.80
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$85.26	$704.25	1462	24.19%	52.67%	2	$540.49	$806.28	15.78	51.99
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$773.24	$1140.12	1117	11.67%	45.34%	21	$8868.47	$2515.66	8.72	12.17
36	BEA - OTHER EQUIP	$470.67	$4423.60	12075	-2.25%	23.36%	31	$10105.26	$12696.70	4.66	15.50
37	BEA/OSD AVIATION	$-2827.70	$52615.67	7344	-3.76%	29.98%	124	$76480.86	$36421.45	-3.70	12.32
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$66.39	$817.68	1465	-0.69%	55.56%	3	$576.46	$1131.09	11.52	52.85
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$652.92	$1261.10	1338	4.14%	37.69%	38	$8685.92	$3909.22	7.52	13.11
42	BEA/OSD OTHR EQUIP	$319.13	$3628.25	18087	-3.10%	21.43%	47	$7013.91	$11489.00	4.55	15.34
43	OSD-MSLS/ACFT/WTCV	$-140.62	$71711.85	8682	-2.88%	30.80%	162	$66032.85	$336154.19	-0.21	17.13
44	OSD-AMMO/CE/OTHER	$172.81	$3586.72	19552	-3.40%	23.90%	50	$6531.56	$11183.70	2.65	15.78
45	M S C INDICES	$32.04	$42309.92	28234	-1.80%	28.18%	212	$24828.30	$188648.06	0.13	17.90
46	BEA (ONLY) INDICES	$-77.29	$26411.73	18246	2.22%	35.97%	123	$22543.46	$147918.37	-0.34	15.58
47	BEA/OSD INDICES	$-496.69	$27028.84	28234	-2.16%	30.57%	212	$24828.30	$188648.06	-2.00	13.50
48	O S D INDICES	$76.43	$39866.25	28234	-3.00%	29.32%	212	$24828.30	$188648.06	0.31	16.93
49	G N P	$-465.02	$34960.25	28234	-3.76%	29.83%	212	$24828.30	$188648.06	-1.87	15.70
50	NO UPDATING	$-3527.40	$42393.64	28234	-17.15%	29.21%	212	$24828.30	$188648.06	-14.21	15.76

ERROR DISTRIBUTIONS - RUN 4 - $5000 < $MAX

CMND: TSAR ,TAPE: PHR UP> 1.00 5000.00<MAX$<********** EQQ FILT ON (RATIOS: Q= 2.0,$= 1.3; G$= 3.0) MIN 365 DAYS, BLOCK$ 2(*10)

INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	73	89	95	0	0	0	2	3	9	15	60	89	99	99	99	99	99	99	99	100	100	100
2 AIRCRAFT ENGINE	77	78	99	0	0	0	0	0	21	22	99	99	99	99	99	99	99	99	99	99	100	100
3 AVIONICS	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
4 AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6 COMBIN ORD &ACCESR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 COMMO & ELECTRONIC	0	0	54	0	0	0	6	6	60	60	60	60	60	60	60	60	60	100	100	100	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	100	100	100	0	0	0	0	0	0	6	100	100	100	100	100	100	100	100	100	100	100	100
16 INTRNAL COMBST ENG	96	100	100	0	0	0	0	0	0	0	96	100	100	100	100	100	100	100	100	100	100	100
17 MOTOR V&H PARTS	68	100	100	0	0	0	0	0	0	68	68	100	100	100	100	100	100	100	100	100	100	100
18 TACOM - TOOLING	49	88	89	0	0	0	2	4	5	24	34	73	94	94	94	98	98	99	99	100	100	100
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$	0
20 OTHER WHL/TR/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 AVL BRDG/TANK/OTHR	84	84	84	0	0	0	0	15	15	15	19	100	100	100	100	100	100	100	100	100	100	100
24 POWER PLANT (MUST)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 FIREFIHT/FRALF TRK	86	86	100	0	0	0	0	0	13	13	95	100	100	100	100	100	100	100	100	100	100	100
26 PUMPS/COMPRESSORS	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
27 THEO/TBL E/SURV IN	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
28 GEN/LIGHT SETS/UTL	82	100	100	0	0	0	0	0	0	0	80	82	100	100	100	100	100	100	100	100	100	100
29 RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30 OTHER TRP SPT ITEM	10	84	92	0	0	1	1	7	15	86	95	97	99	99	99	99	100	100	100	100	100	100
31 BEA - AVIATION	49	83	98	0	0	0	0	1	16	34	40	83	99	99	99	99	99	99	99	99	99	99
32 BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 BEA - ELECTRONICS	0	0	57	0	0	0	0	0	57	57	57	57	57	57	57	57	57	100	100	100	100	100
34 BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 BEA - VEHICLES	49	94	99	0	0	0	0	0	4	4	9	54	99	99	99	99	99	99	99	100	100	100
36 BEA - OTHER EQUIP	66	75	86	0	0	0	0	0	5	5	72	72	80	87	99	99	100	100	100	100	100	100
37 BEA/OSD AVIATION	59	89	98	0	0	0	0	1	10	32	43	91	99	99	99	99	99	99	99	99	100	100
38 BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 BEA/OSD ELECTRONIC	0	0	54	0	0	0	6	6	6	60	60	60	60	60	60	60	60	100	100	100	100	100
40 BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 BEA/OSD VEHICLES	53	93	97	0	0	0	0	0	1	4	6	12	60	98	98	98	99	99	99	99	100	100
42 BEA/OSD OTHR EQUIP	68	75	87	0	0	0	0	0	5	5	71	73	81	87	99	99	100	100	100	100	100	100
43 OSD-MSLS/ACFT/MTCV	41	71	98	0	0	0	0	1	10	34	42	75	81	99	99	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	67	82	86	0	0	0	0	0	5	5	71	73	87	87	99	99	99	100	100	100	100	100
45 M S C INDICES	49	67	98	0	0	0	0	0	11	25	64	74	78	99	99	99	99	99	99	99	100	100
46 BEA (ONLY) INDICES	54	80	94	0	0	0	0	1	13	24	49	79	93	96	99	99	99	99	99	99	99	99
47 BEA/OSD INDICES	60	86	96	0	0	0	0	1	9	27	47	87	96	97	99	99	99	99	99	99	100	100
48 O S D INDICES	46	73	96	0	0	0	0	1	9	29	47	75	82	97	99	99	99	99	99	99	99	99
49 G N P	50	89	91	0	0	0	0	6	7	28	47	78	97	97	99	99	99	99	99	100	100	100
50 NO UPDATING	45	59	80	0	0	0	6	19	37	51	73	97	97	99	99	99	99	99	99	100	100	100

ERROR STATISTICS - RUN 5 - $1000 < $MAX

CMND: TSAR ,TAPE: PHR UP> 1.00 1000.00<MAX$<********** EOQ FILT ON (RATIOS: G= 2.0, S= 1.3; G$= 3.0) MIN 365 DAYS, BLOCKS 2(*10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-40.80	$917.00	42239	-2.40%	34.47%	333	$2969.73	$6053.39	-1.37	19.06
2	AIRCRAFT ENGINE	$-243.60	$4371.87	49833	1.78%	30.07%	81	$3288.05	$40340.85	-7.41	9.53
3	AVIONICS	$-5824.80	$2809.26	154	-19.99%	16.49%	5	$12762.75	$5730.56	-45.64	4.40
4	AIR VEH EXCL AVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCL AVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$1311060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$167.69	$0.00	258	13.04%	0.00%	1	$1286.35	$0.00	13.04	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$-81.16	$809.09	2960	5.40%	42.75%	29	$1192.38	$1427.28	-6.81	39.32
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$164.87	$119.97	125	-1.02%	5.68%	2	$4224.94	$42.68	3.90	2.83
16	INTRNAL COMBST ENG	$47.60	$241.50	11609	-1.13%	18.12%	18	$887.31	$2465.10	5.36	8.63
17	MOTOR VEH PARTS	$239.46	$348.32	334	10.23%	17.36%	7	$1684.45	$1997.44	14.22	22.67
18	TACOM - TOOLING	$246.27	$1974.84	956	9.74%	42.01%	77	$4673.42	$5709.06	5.27	35.31
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$566.45	$927.95	5334	20.44%	43.55%	6	$2602.25	$1440.14	21.77	47.80
22	AIR COND - HEATERS	$471.31	$0.00	465	34.09%	0.00%	1	$1382.38	$0.00	34.09	0.00
23	AVL BRDG/TANK/OTHR	$-5.76	$51.34	8256	-11.40%	23.53%	7	$125.29	$79.90	-4.60	17.72
24	POWER PLANT (MUST)	$-73.69	$190.60	27	-6.02%	14.84%	7	$1234.10	$342.76	-5.97	13.00
25	FIREFIGHT/FRKLF TRK	$-592.14	$2198.29	193	-4.50%	12.46%	4	$11161.77	$8721.65	-5.31	8.00
26	PUMPS/COMPRESSORS	$-798.83	$540.80	793	-7.29%	19.42%	8	$4268.48	$1940.13	-18.71	9.20
27	THED/TBL E/SURV IN	$528.78	$0.00	64	10.75%	0.00%	1	$4918.76	$0.00	10.75	0.00
28	GEN/LIGHT SETS/UTL	$-259.98	$1014.19	10279	-5.30%	19.19%	18	$10222.34	$4302.83	-2.54	9.51
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$-37.12	$1378.87	8109	4.25%	40.28%	73	$2094.17	$6531.26	-1.77	25.20
31	BEA - AVIATION	$-194.15	$16660.75	44983	-2.49%	33.63%	259	$6681.71	$94680.13	-2.91	15.40
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$-17.17	$675.89	2190	12.22%	45.91%	18	$731.10	$1153.74	-2.35	43.89
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$476.46	$1026.84	1789	5.61%	35.45%	49	$6311.10	$3871.90	7.55	14.83
36	BEA - OTHER EQUIP	$306.50	$3611.28	18253	0.11%	37.60%	87	$7195.50	$11118.55	4.26	15.92
37	BEA/OSD AVIATION	$-238.75	$14855.54	92385	-2.45%	33.12%	429	$6664.50	$104807.65	-3.58	13.39
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$-89.65	$824.30	2960	4.57%	43.11%	29	$1192.38	$1427.28	-7.52	39.89
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$75.01	$641.57	13024	7.09%	38.81%	104	$1217.69	$2996.26	6.16	21.62
42	BEA/OSD OTHR EQUIP	$235.57	$2714.68	33923	-0.13%	35.17%	128	$4691.62	$8811.87	5.02	23.57
43	OSD-MSLS/ACFT/WTCV	$-19.19	$20582.32	105409	-1.08%	34.00%	533	$5991.51	$98141.42	-0.32	17.77
44	OSD-AMMO/CE/OTHER	$138.15	$2536.21	36883	0.55%	36.71%	157	$4410.80	$8513.79	3.13	24.10
45	M S C INDICES	$23.42	$18850.46	142292	0.55%	34.83%	690	$5581.78	$84583.68	0.42	19.89
46	BEA (ONLY) INDICES	$-34.58	$13762.56	67215	-0.34%	35.53%	413	$6617.49	$77682.23	-0.52	16.12
47	BEA/OSD INDICES	$-93.85	$12047.19	142292	-0.29%	35.05%	690	$5581.78	$84583.68	-1.68	16.73
48	O S D INDICES	$21.59	$17762.21	142292	-0.71%	34.64%	690	$5581.78	$84583.68	0.39	19.29
49	G N P	$-86.96	$15578.74	142292	-1.83%	34.74%	690	$5581.78	$84583.68	-1.56	18.55
50	NO UPDATING	$-778.45	$16937.84	142292	-16.26%	31.54%	690	$5581.78	$84583.68	-13.95	17.80

ERROR DISTRIBUTIONS - RUN 5 - $1000 < $MAX

CMND: TSAR ,TAPE: PHR UP> 1.00 1000.00<MAX$<********** EOQ FILT ON (RATIOS:Q= 2.0,S= 1.3;GS= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	65	86	94	0	0	0	3	4	11	18	54	83	97	98	98	98	99	99	99	99	99	99
2	AIRCRAFT ENGINE	74	77	98	0	0	0	0	0	21	23	96	97	98	99	99	99	99	99	99	99	99	99
3	AVIONICS	0	1	2	0	0	0	97	97	98	99	99	100	100	100	100	100	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6	COMBIN ORD &ACCESR	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	37	42	57	0	0	14	24	24	39	44	54	81	81	81	89	90	90	99	99	99	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	100	100	100	0	0	0	0	0	0	0	6	100	100	100	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	97	99	99	100	100	100	100	100	100	100	100
17	MOTOR VEH PARTS	52	71	71	0	0	0	0	0	0	0	43	52	71	71	71	100	100	100	100	100	100	100
18	TACOM - TOOLING	45	71	75	0	0	0	1	12	16	28	36	73	87	87	88	92	94	95	95	99	99	99
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	80	100	100	100	100
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100
23	AVL BRDG/TANK/OTHR	80	80	80	0	0	3	3	19	19	19	22	100	100	100	100	100	100	100	100	100	100	100
24	POWER PLANT (MUST)	68	68	95	0	0	0	0	4	31	31	67	100	100	100	100	100	100	100	100	100	100	100
25	FIREFIHT/FRKLF TRK	87	87	100	0	0	0	0	0	12	12	90	100	100	100	100	100	100	100	100	100	100	100
26	PUMPS/COMPRESSORS	5	5	95	0	0	0	0	4	92	92	93	98	98	99	99	99	99	99	99	99	99	99
27	THEO/TBL E/SURV IN	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
28	GEN/LIGHT SETS/UTL	79	98	98	0	0	1	1	1	1	3	81	83	100	100	100	100	100	100	100	100	100	100
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	15	65	74	0	0	0	1	4	9	56	64	72	74	78	99	99	99	99	99	99	99	100
31	BEA - AVIATION	48	82	97	0	0	0	0	2	16	35	42	83	98	99	99	99	99	99	99	99	100	100
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	17	31	60	0	0	0	17	17	46	59	77	77	78	78	78	78	79	99	99	100	100	100
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	49	90	94	0	0	0	0	2	6	7	16	56	97	97	98	99	99	99	99	100	100	100
36	BEA - OTHER EQUIP	63	75	86	0	0	0	0	1	5	8	70	71	81	87	99	99	99	99	99	99	99	99
37	BEA/OSD AVIATION	58	88	98	0	0	0	0	1	10	33	43	91	99	99	99	99	99	99	99	99	99	99
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	35	44	57	0	0	16	24	24	37	46	60	81	81	81	89	90	90	99	99	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	51	86	90	0	0	0	0	5	8	14	23	65	95	95	96	98	98	98	98	99	99	99
42	BEA/OSD OTHR EQUIP	55	69	86	0	0	0	1	1	10	14	67	69	80	88	97	98	98	98	98	99	99	100
43	OSD-MSLS/ACFT/WTCV	41	71	98	0	0	0	1	1	10	34	43	76	82	99	99	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	55	74	85	0	0	1	1	2	11	14	67	70	85	88	97	98	98	98	98	99	99	100
45	M S C INDICES	47	66	97	0	0	0	1	1	12	26	62	74	79	98	99	99	99	99	99	99	99	99
46	BEA (ONLY) INDICES	52	80	93	0	0	0	0	1	13	26	50	79	93	95	99	99	99	99	99	99	99	100
47	BEA/OSD INDICES	57	84	95	0	0	0	0	1	10	28	48	86	95	97	99	99	99	99	99	99	99	100
48	O S D INDICES	44	72	95	0	0	0	1	1	10	30	48	74	82	97	99	99	99	99	99	99	99	99
49	G N P	49	87	90	0	0	0	1	6	8	29	48	78	96	97	99	99	99	99	99	99	99	100
50	NO UPDATING	44	58	79	0	0	1	6	19	38	52	73	96	96	99	99	99	99	99	99	99	99	99

ERROR STATISTICS - RUN 6 - $100 < $MAX < $5000

CHNG: TSAR ,TAPE: PNR UP> 1.00 100.00<MAXS< 5000.00 EDD FILT ON (RATIOS:Q= 2.0,S= 1.3,G= 3.0) MIN 365 DAYS,BLOCKS 2(*10)

INDEX	NAME	UNIT PRICE ERROR MEAN	UNIT PRICE ERROR STD-DEV	QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$10.53	$176.03	155680	3.07%	37.11%	1162	$531.11	$735.09	1.90	24.72
2	AIRCRAFT ENGINE	$-0.70	$92.39	94843	5.80%	35.58%	234	$225.37	$406.04	-0.35	21.97
3	AVIONICS	$-21.14	$74.54	7359	-1.47%	22.10%	89	$298.19	$155.66	-7.09	19.41
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
6	CONBIN GRD &ACCESR	$65.00	$100.43	438	-10.10%	20.73%	4	$839.21	$535.50	10.23	10.35
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTAFIRE	$-181.53	$112.04	17	-30.18%	7.56%	2	$515.76	$255.38	-35.20	5.65
11	COMMO & ELECTRONIC	$-20.18	$262.43	15019	6.51%	33.98%	127	$312.35	$681.32	-6.46	31.98
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$145.96	$258.82	38	3.20%	17.55%	5	$1473.39	$216.34	9.91	16.53
16	INTRNAL COMBST ENG	$-14.22	$91.98	33632	0.65%	22.78%	61	$131.45	$357.78	-10.82	38.19
17	MOTOR VEH PARTS	$27.73	$67.84	16410	14.05%	37.70%	47	$174.70	$218.86	15.87	21.84
18	TACOM - TOOLING	$60.28	$750.92	4638	14.30%	43.27%	208	$641.40	$1346.33	9.40	45.67
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/COT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$566.45	$927.95	5334	20.44%	43.55%	6	$2602.25	$1440.14	21.77	47.80
22	AIR COND - HEATERS	$502.50	$123.15	569	31.44%	69.97%	5	$1180.59	$392.92	42.57	32.66
23	AVL BRDG/TANK/OTHR	$-0.93	$35.41	16721	3.66%	31.20%	21	$22.79	$70.40	-4.07	29.26
24	POWER PLANT (NUST)	$-53.87	$128.74	64	-5.53%	15.35%	12	$729.84	$506.77	-7.38	12.66
25	FIREFIGHT/FRKLF TRK	$6.62	$23.85	903	16.26%	30.06%	10	$286.40	$484.17	3.08	6.79
26	PUMPS/COMPRESSORS	$-510.98	$536.94	1296	-4.42%	26.09%	16	$2055.17	$2271.36	-17.90	8.90
27	THEO/TAL E/SURV IN	$45.48	$71.17	136	4.50%	23.14%	9	$359.75	$50.18	12.64	18.61
28	GEN/LIGHT SETS/UTL	$-163.30	$544.35	7103	1.91%	24.00%	55	$934.81	$1321.90	-17.47	20.03
29	RAILROAD EQUIPMENT	$15.58	$45.46	21	1.45%	9.41%	6	$410.51	$84.28	3.80	10.26
30	OTHER TRP SPT ITEM	$7.62	$124.71	146917	6.85%	39.34%	347	$148.35	$302.90	5.14	25.80
31	OEA - AVIATION	$8.53	$143.41	132026	2.90%	34.01%	871	$385.65	$462.49	2.21	25.44
32	OEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	OEA - ELECTRONICS	$-11.94	$149.24	12445	5.17%	32.79%	87	$201.79	$460.12	-5.92	26.47
34	OEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	OEA - VEHICLES	$22.52	$100.64	22082	7.84%	25.40%	173	$202.32	$376.98	11.13	24.56
36	OEA - OTHER EQUIP	$-13.87	$154.45	42248	1.61%	35.55%	325	$427.53	$655.42	-3.25	21.63
37	OEA/OSD AVIATION	$-1.54	$140.90	257882	2.21%	35.59%	1485	$412.02	$640.49	-0.37	24.20
38	OEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	OEA/OSD ELECTRONIC	$-21.26	$266.44	15019	5.26%	33.59%	127	$312.35	$681.32	-6.81	32.05
40	OEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	OEA/OSD VEHICLES	$3.18	$231.67	54710	10.33%	37.69%	321	$188.39	$516.61	1.69	38.21
42	OEA/OSD OTHR EQUIP	$10.18	$261.77	179539	2.80%	36.23%	493	$266.41	$734.60	3.82	38.17
43	OSD-MSLS/ACFT/NTCV	$-0.76	$160.89	312592	3.66%	35.46%	1806	$372.88	$626.41	-0.20	24.84
44	OSD-AMMO/CE/OTHER	$6.68	$263.38	194558	3.19%	35.59%	620	$269.96	$730.72	2.55	37.79
45	N S C INDICES	$7.91	$205.96	507150	5.36%	36.74%	2426	$333.40	$670.23	2.37	29.10
46	OEA (ONLY) INDICES	$4.26	$142.69	208801	3.33%	33.44%	1456	$363.78	$505.23	1.17	24.83
47	OEA/OSD INDICES	$2.53	$205.65	507150	3.56%	36.01%	2426	$333.40	$670.23	0.76	30.05
48	O S D INDICES	$2.17	$206.36	507150	3.55%	35.51%	2426	$333.40	$670.23	0.65	29.50
49	G N P	$-0.05	$211.36	507150	1.94%	35.08%	2426	$333.40	$670.23	-0.01	30.00
50	NO UPDATING	$-42.45	$224.23	507150	-13.26%	31.06%	2426	$333.40	$670.23	-12.73	26.84

ERROR DISTRIBUTIONS - RUN 6 - $100 < $MAX < $5000

CMND: TSAR ,TAPE: PNR UP> 1.00 100.00<MAXS< 5000.00 EQO FILT ON (RATIOS:G= 2.0,S= 1.33,G= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	48	74	86	0	0	1	3	6	14	23	44	72	88	93	95	97	99	99	99	99	99	99
2	AIRCRAFT ENGINE	39	67	90	0	0	2	3	4	17	32	41	71	85	94	97	98	99	99	99	99	99	99
3	AVIONICS	38	84	89	0	0	7	8	9	11	43	76	81	95	96	96	99	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH ENCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	CONGIN ORD &ACCESR	3	94	97	0	0	0	0	2	5	5	5	9	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	16	0	0	0	0	63	100	100	100	100	100	100	100	100	100	100	100	100	100	100
11	COMMO & ELECTRONIC	48	60	70	0	0	14	20	20	25	31	51	80	86	90	97	98	98	99	99	99	99	99
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	50	70	70	0	0	0	0	0	0	20	20	70	70	70	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	32	45	51	0	0	20	29	34	40	48	53	81	86	86	87	87	98	100	100	100	100	100
17	MOTOR VEH PARTS	37	55	83	0	0	0	0	0	1	4	24	42	57	83	87	93	99	99	99	99	99	99
18	TACOM - TOOLING	45	58	65	0	0	0	1	15	21	28	40	74	79	81	83	87	91	92	93	99	99	99
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	80	100	100	100	100
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	93	93	93	93	93	100	100
23	AVL BRDG/TANK/OTHR	28	66	73	0	0	10	10	10	19	31	49	59	86	92	95	96	98	99	99	99	99	99
24	POWER PLANT (MUST)	51	68	96	0	0	0	0	3	29	46	74	98	98	100	100	100	100	100	100	100	100	100
25	FIREFIGHT/FRKLF TRK	93	98	99	0	0	0	0	0	0	0	7	93	98	99	99	99	99	100	100	100	100	100
26	PUMPS/COMPRESSORS	12	14	95	0	0	0	0	4	85	85	91	98	99	99	99	99	99	100	100	100	100	100
27	THEO/TBL E/SURV IN	50	50	94	0	0	5	5	5	5	5	5	56	56	100	100	100	100	100	100	100	100	100
28	GEN/LIGHT SETS/UTL	9	73	78	0	0	17	17	20	21	78	85	87	95	99	99	99	99	100	100	100	100	100
29	RAILROAD EQUIPMENT	50	100	100	0	0	0	0	0	0	5	52	56	100	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	32	60	73	0	0	0	3	6	12	31	41	63	72	79	96	97	99	99	99	99	99	100
31	BEA - AVIATION	38	68	85	0	0	1	4	7	13	30	49	69	82	92	93	95	99	99	99	99	99	99
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	45	69	79	0	0	4	16	16	16	35	65	81	85	96	98	98	98	98	99	100	100	100
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	38	56	69	0	0	0	0	7	8	14	34	52	65	76	88	93	97	99	99	99	99	99
36	BEA - OTHER EQUIP	27	77	87	0	0	0	2	7	14	43	57	70	91	94	94	98	99	99	99	99	99	100
37	BEA/OSD AVIATION	44	74	87	0	0	1	3	7	13	33	46	77	88	94	95	96	99	99	99	99	99	99
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	46	62	78	0	0	14	20	20	21	33	54	80	83	98	97	98	98	98	99	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	34	54	61	0	0	8	12	19	21	33	47	67	75	81	87	89	96	97	98	99	99	99
42	BEA/OSD OTHR EQUIP	17	53	84	0	0	3	4	7	26	45	53	62	79	91	91	93	94	94	94	99	99	100
43	OSD-MSLS/ACFT/MTCV	42	73	86	0	0	2	4	7	15	31	47	73	89	94	95	97	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	19	54	82	0	0	4	6	8	26	44	55	64	80	91	91	93	94	94	94	99	99	100
45	M S C INDICES	39	63	82	0	0	3	4	7	18	30	45	70	82	90	94	96	97	97	99	99	99	99
46	BEA (ONLY) INDICES	36	78	84	0	0	1	4	7	13	32	50	69	83	91	93	96	99	99	99	99	99	99
47	BEA/OSD INDICES	36	66	84	0	0	2	5	8	18	36	50	72	84	92	93	95	97	97	97	99	99	99
48	O S D INDICES	35	67	85	0	0	3	5	7	18	35	50	70	86	93	94	96	97	97	97	99	99	99
49	G N P	39	70	85	0	0	3	5	8	16	34	51	73	86	93	95	96	97	97	97	99	99	100
50	NO UPDATING	34	54	74	0	0	6	9	22	38	55	73	89	92	96	97	97	98	99	99	99	99	99

ERROR STATISTICS - RUN 7 - GRATIO = 2

CHNO: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EOQ FILT ON (RATIOS:Q= 2.0,S= 1.3;GS= 2.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-20.65	$593.57	69399	0.02%	22.61%	558	$2030.17	$4855.95	-1.02	14.28
2	AIRCRAFT ENGINE	$-218.74	$4187.55	54161	1.70%	23.82%	119	$3083.91	$38699.21	-7.09	9.41
3	AVIONICS	$-2631.09	$3390.74	370	-12.60%	15.56%	10	$5535.20	$7137.63	-43.92	9.51
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$6311060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$167.69	$0.00	258	13.04%	0.00%	1	$1286.35	$0.00	13.04	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$16.87	$507.53	4946	6.01%	30.22%	32	$618.20	$1164.52	2.73	33.29
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$161.21	$156.93	155	1.99%	15.26%	7	$3692.38	$1091.91	4.37	5.57
16	INTRNAL COMBST ENG	$47.54	$240.74	11738	0.92%	19.10%	31	$886.75	$2451.77	5.36	8.75
17	MOTOR VEH PARTS	$33.70	$139.83	3846	14.46%	27.36%	20	$211.62	$774.82	15.92	24.93
18	TACOM - TOOLING	$148.55	$912.39	1815	8.12%	27.30%	124	$2496.67	$4400.86	5.95	22.69
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$718.49	$578.44	1597	8.18%	11.79%	4	$3938.04	$1619.32	18.24	8.44
22	AIR COND - HEATERS	$469.31	$30.57	467	17.63%	16.46%	2	$1377.64	$72.29	34.07	0.96
23	AVL BRDG/TANK/OTHR	$-2.94	$21.40	8226	-3.47%	14.32%	6	$120.94	$34.45	-2.43	14.28
24	POWER PLANT (NUST)	$-73.98	$160.67	38	-6.69%	13.99%	8	$1067.11	$389.77	-6.93	11.97
25	FIREFIHT/FRKLF TRK	$-579.75	$2183.67	196	0.71%	15.25%	5	$11006.40	$8743.91	-5.27	8.06
26	PUMPS/COMPRESSORS	$-479.89	$579.23	1226	0.81%	27.75%	14	$2950.21	$2346.90	-16.27	9.67
27	THEO/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.58%	6	$2289.51	$2268.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-197.76	$885.19	11370	-1.75%	15.73%	27	$9234.48	$5034.39	-2.14	8.25
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$-22.11	$1093.49	12649	0.42%	24.39%	119	$1566.06	$5270.18	-1.41	24.79
31	BEA - AVIATION	$-107.01	$13469.31	68747	1.43%	24.67%	412	$4551.66	$76641.45	-2.35	14.47
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$-11.83	$523.87	3645	7.20%	34.41%	20	$444.75	$960.79	-2.66	43.02
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$331.09	$802.38	2845	8.95%	25.37%	94	$4168.56	$4135.08	7.94	14.57
36	BEA - OTHER EQUIP	$233.10	$3225.92	22930	-2.79%	24.03%	136	$5872.58	$10258.81	3.97	16.20
37	BEA/OSD AVIATION	$-172.42	$12813.71	124089	-0.95%	23.48%	697	$5112.54	$90471.08	-3.37	12.42
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$11.18	$523.98	4946	5.01%	31.57%	32	$618.20	$1164.52	1.81	34.41
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$61.52	$425.14	17554	6.92%	26.42%	182	$930.06	$2568.97	6.61	16.66
42	BEA/OSD OTHR EQUIP	$166.16	$2582.59	36322	-1.70%	22.63%	194	$4254.79	$8620.44	3.91	16.48
43	OSD-MSLS/ACFT/WTCV	$-10.73	$17752.16	141643	0.32%	23.23%	879	$4594.20	$84695.65	-0.23	16.67
44	OSD-AMMO/CE/OTHER	$83.64	$2352.14	41268	-0.98%	23.94%	226	$3818.94	$8183.11	2.19	16.88
45	N S C INDICES	$16.26	$16622.18	182911	1.54%	23.65%	1105	$4419.29	$74633.30	0.37	17.73
46	BEA (ONLY) INDICES	$-11.34	$11381.33	98167	1.80%	25.24%	662	$4696.61	$64340.26	-0.24	15.51
47	BEA/OSD INDICES	$-77.77	$10618.78	192911	0.39%	24.31%	1105	$4419.29	$74633.30	-1.76	13.88
48	O S B INDICES	$10.56	$15661.67	182911	0.06%	23.38%	1105	$ 19.29	$74633.30	0.24	16.74
49	G N P	$-76.45	$13734.74	182911	-1.29%	23.22%	1105	$4419.29	$74633.30	-1.73	15.65
50	NO UPDATING	$-620.31	$16701.42	182911	-15.39%	22.80%	1105	$4419.29	$74633.30	-14.04	15.79

ERROR DISTRIBUTIONS - RUN 7 - GRATIO = 2

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EDQ FILT ON (RATIOS: Q= 2.0,S= 1.3; GS= 2.0) MIN 365 DAYS, BLOCKS 2(*10)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	65	86	94	0	0	0	1	3	10	17	52	83	97	98	98	99	99	99	99	99	99	99
2	AIRCRAFT ENGINE	74	77	99	0	0	0	0	0	21	23	95	97	98	99	99	99	99	99	99	100	100	100
3	AVIONICS	3	5	6	0	0	0	93	93	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6	CONBIN ORD &ACCESR	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	44	50	68	0	0	0	11	11	28	34	46	79	79	79	88	88	89	99	99	99	99	99
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	96	97	97	0	0	0	0	0	0	1	7	97	97	97	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17	MOTOR VEH PARTS	42	58	64	0	0	0	0	0	6	6	37	48	64	64	75	95	99	100	100	100	100	100
18	TACOM - TOOLING	51	79	84	0	0	0	0	2	6	20	29	72	86	87	88	93	98	99	100	100	100	100
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	30	30	100	0	0	0	0	0	0	0	4	30	30	100	100	100	100	100	100	100	100	100
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	99	99	99	99	99	99	99
23	AVL BRDG/TANK/OTHR	84	84	84	0	0	0	0	15	15	15	19	100	100	100	100	100	100	100	100	100	100	100
24	POWER PLANT (MUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25	FIREFINT/FRKLF TRK	86	86	99	0	0	0	0	0	12	12	90	99	99	99	99	99	99	99	99	99	99	99
26	PUMPS/COMPRESSORS	13	15	99	0	0	0	0	0	83	83	89	96	98	99	99	99	100	100	100	100	100	100
27	TNED/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28	GEN/LIGHT SETS/UTL	79	99	99	0	0	0	0	0	0	3	81	83	99	100	100	100	100	100	100	100	100	100
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	19	65	76	0	0	0	0	1	3	10	54	64	73	75	80	98	98	99	100	100	100	100
31	BEA - AVIATION	48	82	97	0	0	0	0	1	15	33	42	82	97	99	99	99	99	99	100	100	100	100
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	19	32	61	0	0	0	17	17	46	59	76	78	78	78	79	79	79	99	99	99	99	99
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	48	88	94	0	0	0	0	2	6	7	16	55	95	96	97	99	99	99	100	100	100	100
36	BEA - OTHER EQUIP	62	75	86	0	0	0	0	1	5	9	70	71	81	87	99	99	99	100	100	100	100	100
37	BEA/OSD AVIATION	57	88	98	0	0	0	0	1	10	32	43	90	98	99	99	99	99	99	100	100	100	100
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	41	52	68	0	0	1	11	11	26	37	53	79	79	79	88	88	89	100	100	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	51	87	92	0	0	0	0	2	6	12	21	64	93	94	95	97	99	99	100	100	100	100
42	BEA/OSD OTHR EQUIP	58	73	88	0	0	0	0	1	7	11	67	70	80	89	99	99	99	100	100	100	100	100
43	OSD-MSLS/ACFT/WTCV	41	72	98	0	0	0	0	1	10	34	43	75	82	99	99	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	57	78	87	0	0	0	0	1	7	12	67	70	86	89	99	99	99	99	99	99	99	99
45	M S C INDICES	48	67	97	0	0	0	0	1	11	25	61	74	79	98	99	99	99	99	99	99	99	99
46	BEA (ONLY) INDICES	52	80	94	0	0	0	0	1	12	26	49	78	92	95	99	99	99	99	99	99	99	99
47	BEA/OSD INDICES	57	85	96	0	0	0	0	1	9	28	47	85	95	97	99	99	99	99	99	99	99	99
48	O S D INDICES	44	73	96	0	0	0	0	1	9	29	47	74	83	97	99	99	99	99	100	100	100	100
49	G N P	49	87	91	0	0	0	0	5	8	28	48	78	96	97	99	99	99	99	99	99	99	99
50	NO UPDATING	44	59	80	0	0	0	6	19	37	52	73	96	97	99	99	99	99	99	99	99	99	99

ERROR STATISTICS - RUN 8 - GRATIO = INFINITY

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX8<********** EOQ FILT ON (RATIOS:0= 2.0,8= 1.3;G8=****) MIN 365 DAYS,BLOCKS 2(*10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-39.96	$736.13	76328	-0.49%	52.11%	641	$1937.49	$4659.79	-2.06	22.75
2	AIRCRAFT ENGINE	$-224.22	$4185.95	54391	10.17%	83.11%	131	$3096.78	$38619.65	-7.24	10.79
3	AVIONICS	$-1808.24	$2994.84	528	-21.36%	24.72%	12	$4071.62	$6381.27	-44.41	9.63
4	AIR VEH EXCL AVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCL AVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$6311060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$167.69	$0.00	258	13.04%	0.00%	1	$1286.35	$0.00	13.04	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$-38.17	$586.24	5676	8.77%	43.38%	36	$635.35	$1184.24	-6.01	40.10
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$161.21	$156.93	155	1.99%	15.26%	7	$3692.38	$1091.91	4.37	5.57
16	INTRNAL COMBST ENG	$47.54	$240.74	11738	0.92%	19.10%	31	$886.75	$2451.77	5.36	8.75
17	MOTOR VEH PARTS	$27.28	$243.22	3850	9.70%	34.17%	21	$218.86	$806.26	12.46	30.65
18	TACOM - TOOLING	$131.01	$1464.39	1949	20.57%	121.41%	138	$2619.20	$4495.85	5.00	41.64
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$566.45	$927.95	5334	20.44%	43.55%	6	$2602.25	$1440.14	21.77	47.80
22	AIR COND - HEATERS	$514.19	$96.90	576	66.02%	69.74%	3	$1199.06	$375.33	42.88	32.53
23	AVL BRDG/TANK/OTHR	$-5.76	$51.34	8256	-11.40%	23.53%	7	$125.29	$79.90	-4.60	17.72
24	POWER PLANT (MUST)	$-73.98	$160.67	38	-6.69%	13.99%	8	$1067.11	$389.77	-6.93	11.97
25	FIREFIHT/FRKLF TRK	$-378.67	$1907.55	269	29.08%	81.62%	7	$8146.96	$8812.57	-4.65	16.31
26	PUMPS/COMPRESSORS	$-497.69	$584.96	1300	49.26%	228.23%	17	$2902.01	$2288.75	-17.15	15.77
27	THEO/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.58%	6	$2289.51	$2268.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-244.99	$958.65	11543	-5.66%	21.01%	29	$9195.13	$5006.95	-2.66	9.61
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$108.62	$5379.40	12942	4.05%	56.25%	133	$1588.39	$5384.39	6.84	63.43
31	BEA - AVIATION	$-120.95	$13064.74	73192	1.60%	59.63%	471	$4361.38	$74283.89	-2.77	18.99
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$-2.11	$488.03	4211	17.86%	48.50%	22	$392.24	$903.77	-0.54	45.61
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$334.09	$868.75	2915	22.90%	133.65%	104	$4107.18	$4118.93	8.13	20.40
36	BEA - OTHER EQUIP	$225.30	$3207.01	23243	-0.73%	45.67%	149	$5803.91	$10207.16	3.88	16.61
37	BEA/OSD AVIATION	$-177.57	$12458.41	131406	-0.18%	56.90%	794	$4892.58	$87922.06	-3.63	15.43
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$-42.58	$597.58	5676	8.01%	44.65%	36	$635.35	$1184.24	-6.70	40.83
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$58.40	$579.14	17692	15.08%	101.73%	197	$956.84	$2618.88	6.10	25.36
42	BEA/OSD OTHR EQUIP	$233.96	$3887.00	40811	5.80%	82.32%	219	$4025.92	$8204.28	5.81	31.62
43	OSD-MSLS/ACFT/WTCV	$-24.21	$17307.35	149098	2.41%	66.40%	991	$4425.56	$82555.71	-0.55	19.09
44	OSD-AMMO/CE/OTHER	$143.17	$3604.40	46487	5.93%	77.91%	255	$3611.94	$7777.87	3.96	31.91
45	M S C INDICES	$18.41	$16136.59	195585	4.69%	71.20%	1246	$4232.18	$72180.58	0.44	22.79
46	BEA (ONLY) INDICES	$-25.60	$11090.41	103561	4.58%	72.69%	746	$4516.59	$62649.09	-0.57	18.83
47	BEA/OSD INDICES	$-66.44	$10368.35	195585	3.52%	70.57%	1246	$4232.18	$72180.58	-1.57	20.47
48	O S D INDICES	$15.57	$15213.18	195585	3.11%	68.92%	1246	$4232.18	$72180.58	0.37	22.37
49	G N P	$-64.77	$13361.83	195585	1.70%	66.92%	1246	$4232.18	$72180.58	-1.53	21.88
50	NO UPDATING	$-587.21	$16205.84	195585	-13.35%	54.71%	1246	$4232.18	$72180.58	-13.87	20.83

ERROR DISTRIBUTIONS - RUN 8 - GRATIO = INFINITY

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS:Q= 2.0,S= 1.3,GS=****) MIN 365 DAYS,BLOCKS 2(*10)

INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	63	83	91	0	1	2	4	5	12	19	53	83	96	97	98	99	99	99	99	99	99	99
2 AIRCRAFT ENGINE	73	77	98	0	0	0	0	0	21	23	94	97	98	99	99	99	99	99	99	99	99	99
3 AVIONICS	3	5	5	0	0	4	94	94	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4 AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6 COMBIN ORD &ACCESR	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
7 AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 COMMO & ELECTRONIC	37	42	58	0	0	14	23	23	38	43	53	81	81	81	89	90	90	99	99	99	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	96	97	97	0	0	0	0	0	0	1	7	97	97	97	100	100	100	100	100	100	100	100
16 INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17 MOTOR VEH PARTS	40	56	62	0	3	3	3	3	9	10	39	50	65	65	76	95	99	99	99	99	99	99
18 TACOM - TOOLING	45	70	74	0	1	2	3	13	16	28	36	74	87	87	88	92	94	95	95	99	99	99
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 OTHER WHL/TR/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	80	100	100	100	100
22 AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	93	93	93	93	93	99	99
23 AVL BRDG/TANK/OTHR	80	80	80	0	0	3	3	19	19	19	22	100	100	100	100	100	100	100	100	100	100	100
24 POWER PLANT (MUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25 FIREFINT/FRKLF TRK	85	85	99	0	0	0	0	0	13	13	90	99	99	99	99	99	99	99	99	99	99	99
26 PUMPS/COMPRESSORS	12	14	95	0	0	0	0	4	83	83	90	96	98	99	99	99	99	99	99	99	99	99
27 THEO/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28 GEN/LIGHT SETS/UTL	78	98	98	0	0	1	1	1	1	4	81	83	99	99	99	99	99	99	99	99	99	99
29 RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30 OTHER TRP SPT ITEM	18	62	73	0	0	1	2	4	11	53	63	71	73	78	95	95	97	97	97	97	97	97
31 BEA - AVIATION	47	80	96	0	0	1	1	2	16	34	42	82	97	99	99	99	99	99	99	99	99	99
32 BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 BEA - ELECTRONICS	18	32	60	0	0	0	17	17	45	58	75	76	77	77	77	77	78	98	98	100	100	100
34 BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 BEA - VEHICLES	48	88	93	0	0	0	0	3	7	7	17	56	95	96	97	99	99	99	99	99	99	99
36 BEA - OTHER EQUIP	62	75	86	0	0	0	0	1	6	9	71	71	81	87	99	99	99	99	99	99	99	99
37 BEA/OSD AVIATION	57	87	97	0	0	0	1	1	11	32	44	90	98	99	99	99	99	99	99	99	99	99
38 BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 BEA/OSD ELECTRONIC	35	44	57	0	0	15	23	23	37	45	59	81	81	81	89	89	90	99	99	100	100	100
40 BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 BEA/OSD VEHICLES	49	84	88	0	0	0	1	5	9	15	24	65	93	94	95	97	98	98	98	99	99	99
42 BEA/OSD OTHR EQUIP	54	69	86	0	0	1	1	1	10	15	67	70	80	88	97	97	98	98	98	99	99	99
43 OSD-MSLS/ACFT/WTCV	41	71	97	0	0	0	1	2	10	34	43	75	82	99	99	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	54	73	85	0	0	1	1	2	11	16	67	70	85	87	97	97	97	98	98	99	99	99
45 M S C INDICES	47	66	96	0	0	0	1	1	13	26	61	74	79	98	99	99	99	99	99	99	99	99
46 BEA (ONLY) INDICES	51	79	93	0	0	0	1	2	13	26	50	78	92	95	99	99	99	99	99	99	99	99
47 BEA/OSD INDICES	56	83	94	0	0	0	1	2	11	29	48	85	94	96	98	99	99	99	99	99	99	99
48 O S D INDICES	44	72	94	0	0	0	1	2	11	30	48	74	83	96	99	99	99	99	99	99	99	99
49 G N P	48	86	90	0	0	0	1	6	9	29	48	78	95	97	99	99	99	99	99	99	99	99
50 NO UPDATING	43	58	79	0	0	1	6	20	38	52	73	96	96	99	99	99	99	99	99	99	99	99

ERROR STATISTICS - RUN 9 - EOQ = OFF

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX$<********** EOQ FILT OFF(RATIOS: Q= 0.0, $= 0.0; G$= 0.0) MIN 365 DAYS, BLOCKS 2(+10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-24.43	$787.81	77269	0.23%	79.59%	783	$1949.76	$4644.23	-1.25	28.51
2	AIRCRAFT ENGINE	$-175.39	$3769.07	68141	7.24%	77.90%	161	$2503.47	$34530.39	-7.01	14.84
3	AVIONICS	$-1775.57	$2981.53	537	-17.95%	43.09%	15	$4017.39	$6341.28	-44.20	11.43
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.01	$85508	93.96	159	-4.34%	17.32%	10	$2040519.16	$1311060.46	4.13	21.26
6	COMBIN GND &ACCESM	$-80.79	$358.42	382	-8.97%	22.01%	2	$1495.15	$301.18	-5.40	21.72
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$16.29	$538.70	8360	9.66%	45.10%	41	$476.00	$1049.81	3.42	44.89
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$54.54	$563.59	161	-3.20%	19.81%	8	$3809.17	$1224.81	1.43	12.22
16	INTRNAL COMBST ENG	$46.83	$242.11	11746	-4.19%	23.98%	34	$886.83	$2450.91	5.28	9.01
17	MOTOR VEH PARTS	$574.34	$972.94	4146	870.94%	4639.15%	29	$298.52	$843.24	192.40	2305.45
18	TACOM - TOOLING	$338.75	$1443.31	2330	17.69%	117.21%	159	$2404.78	$4218.44	14.09	51.61
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$909.63	$1192.25	4436	13.24%	59.69%	7	$2537.08	$1584.29	35.85	66.38
22	AIR COND - HEATERS	$420.52	$117.43	609	60.15%	64.50%	6	$1166.56	$390.15	36.05	9.77
23	AVL BRDG/TANK/OTHR	$-0.65	$70.95	8357	18.22%	57.53%	12	$129.53	$90.98	-0.51	26.42
24	POWER PLANT (MUST)	$-1156.92	$1932.20	50	-13.91%	24.30%	9	$2347.91	$2304.38	-49.27	31.55
25	FIREFINT/FRKLF TRK	$-517.99	$2104.68	275	22.62%	78.24%	8	$8622.62	$9279.58	-6.01	16.39
26	PUMPS/COMPRESSORS	$954.61	$3295.31	1490	59.92%	222.02%	20	$3295.98	$2336.65	28.96	77.54
27	THEO/TBL E/SURV IN	$602.35	$542.37	150	74.83%	145.63%	6	$2289.51	$2268.25	26.31	76.60
28	GEN/LIGHT SETS/UTL	$-101.15	$1120.67	12206	8.04%	78.10%	37	$9032.31	$4935.61	-1.12	13.54
29	RAILROAD EQUIPMENT	$310039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$117.55	$5316.68	13262	3.92%	62.60%	154	$1601.30	$5326.39	7.34	63.85
31	BEA - AVIATION	$-100.97	$12599.79	78722	6.62%	88.44%	563	$4098.48	$71634.67	-2.46	21.60
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$20.40	$464.09	4787	15.88%	51.26%	25	$377.13	$851.42	5.41	48.20
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$755.24	$926.28	4598	214.65%	2143.63%	121	$2635.92	$3816.42	28.65	687.72
36	BEA - OTHER EQUIP	$337.69	$3116.80	25193	9.07%	68.38%	172	$5650.26	$9837.96	5.98	19.69
37	BEA/OSD AVIATION	$-151.37	$11821.09	146106	-0.23%	76.07%	969	$4434.08	$83394.95	-3.41	18.01
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$14.26	$547.77	8360	9.07%	46.32%	41	$476.00	$1049.81	3.00	45.92
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$197.40	$761.92	18383	112.63%	1558.88%	230	$972.14	$2589.37	20.31	567.13
42	BEA/OSD OTHR EQUIP	$369.10	$3946.28	41362	10.31%	91.74%	263	$4065.73	$8169.27	9.08	38.00
43	OSD-MSLS/ACFT/WTCV	$0.23	$16482.34	164489	19.47%	627.61%	1199	$4047.18	$78609.22	0.01	87.30
44	OSD-AMMO/CE/OTHER	$249.42	$3559.88	49722	9.82%	86.83%	304	$3462.17	$7583.13	7.20	37.98
45	M S C INDICES	$60.04	$15426.99	214211	21.70%	660.64%	1503	$3911.39	$68981.68	1.53	92.68
46	BEA (ONLY) INDICES	$36.44	$10609.55	113300	35.93%	801.37%	881	$4226.95	$59906.34	0.86	111.55
47	BEA/OSD INDICES	$-14.48	$9920.90	214211	19.14%	615.41%	1503	$3911.39	$68981.68	-0.37	86.28
48	O S O INDICES	$58.07	$14545.16	214211	17.52%	561.93%	1503	$3911.39	$68981.68	1.48	79.75
49	G N P	$-18.72	$12777.44	214211	14.53%	503.83%	1503	$3911.39	$68981.68	-0.48	72.16
50	NO UPDATING	$-510.58	$15494.44	214211	-7.02%	249.99%	1503	$3911.39	$68981.68	-13.05	40.57

ERROR DISTRIBUTIONS - RUN 9 - EOQ = OFF

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********* EOQ FILT OFF(RATIOS: Q= 0.0,S= 0.0;GS= 0.0) MIN 365 DAYS,BLOCKS 2(*10)

INDEX	NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	60	80	88	0	1	3	5	6	14	21	52	82	94	95	96	97	98	99	99	99	99	99
2	AIRCRAFT ENGINE	71	74	96	0	0	1	1	1	22	25	94	96	97	98	99	99	99	99	99	99	99	99
3	AVIONICS	3	5	5	0	0	4	94	94	94	96	99	99	99	99	99	99	99	99	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6	COMBIN ORD &ACCESR	0	58	58	0	0	0	0	41	41	41	41	41	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	25	29	44	0	0	13	21	21	35	39	53	65	65	66	66	87	91	99	99	99	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	89	91	91	0	0	0	0	6	6	8	13	97	97	97	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17	MOTOR VEH PARTS	29	39	47	0	28	28	28	28	35	36	56	66	75	75	83	96	98	99	99	99	99	99
18	TACOM - TOOLING	41	63	76	0	0	3	4	8	12	23	30	65	76	85	86	89	91	92	92	95	98	98
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TR/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	16	16	55	0	0	0	20	20	20	20	23	37	37	76	76	76	76	76	100	100	100	
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	97	97	99	99	99	99	99
23	AVL BRDG/TANK/OTHR	77	77	77	0	0	3	3	18	18	18	21	95	95	95	95	95	95	98	99	99	99	99
24	POWER PLANT (MUST)	19	25	33	0	0	65	65	66	74	80	90	100	100	100	100	100	100	100	100	100	100	100
25	FIREFIHT/FRKLF TRK	79	79	99	0	0	0	0	0	20	20	90	99	99	99	99	99	99	99	99	99	99	99
26	PUMPS/COMPRESSORS	9	11	73	0	0	0	0	0	61	61	66	71	72	73	73	73	73	73	73	73	99	99
27	THEO/TBL E/SURV IN	3	95	95	0	0	0	0	0	0	0	0	3	95	95	95	95	95	95	95	95	95	95
28	GEN/LIGHT SETS/UTL	75	95	95	0	0	1	1	1	1	4	78	80	96	96	99	99	99	99	99	99	99	99
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	19	62	72	0	0	1	2	5	11	52	62	72	74	78	94	94	95	96	97	97	97	97
31	BEA - AVIATION	46	79	95	0	0	1	1	3	17	35	43	81	97	98	98	98	99	99	99	99	99	99
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	17	29	54	0	0	0	16	16	41	53	69	70	70	70	70	71	80	98	98	100	100	100
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	47	87	92	0	0	0	0	3	7	8	17	56	95	96	96	98	99	99	99	99	99	99
36	BEA - OTHER EQUIP	59	71	81	0	0	0	0	1	5	9	67	68	77	83	96	99	99	99	99	99	99	99
37	BEA/OSD AVIATION	56	86	96	0	0	0	1	2	11	33	44	89	97	98	98	99	99	99	99	99	99	99
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	23	51	44	0	0	14	21	21	33	41	58	65	65	66	66	87	91	99	99	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	47	79	86	0	2	2	3	6	10	16	24	63	90	93	94	96	97	97	97	98	99	99
42	BEA/OSD OTHR EQUIP	53	65	79	0	0	1	2	3	9	13	65	67	75	83	94	96	97	97	97	97	99	99
43	OSD-MSLS/ACFT/WTCV	40	70	95	0	0	1	2	2	11	34	43	75	82	98	98	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	52	69	78	0	0	1	3	4	9	14	65	67	79	82	93	96	96	97	97	97	99	99
45	M S C INDICES	46	64	94	0	0	1	2	2	13	27	60	73	78	97	98	98	98	99	99	99	99	99
46	BEA (ONLY) INDICES	50	77	91	0	0	0	1	2	13	26	49	77	91	93	97	98	99	99	99	99	99	99
47	BEA/OSD INDICES	55	81	92	0	0	1	1	2	11	29	47	84	93	95	97	98	98	99	99	99	99	99
48	O S D INDICES	43	70	92	0	0	1	2	2	11	30	47	73	81	95	97	98	98	99	99	99	99	99
49	G N P	47	83	87	0	0	1	2	7	10	29	48	77	94	95	98	98	99	99	99	99	99	99
50	NO UPDATING	43	57	77	0	0	2	7	20	37	51	72	95	95	98	98	98	99	99	99	99	99	99

ERROR STATISTICS - RUN 10 - QRATIO = 3.0

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EDD FILT ON (RATIOS:Q= 3.0,S= 1.3;GS= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX	NAME	UP PRICE ERROR MEAN	UP PRICE ERROR STD-DEV	UP PRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-16.49	$719.23	72141	0.06%	34.90%	655	$1996.66	$4782.36	-0.83	20.12
2	AIRCRAFT ENGINE	$-216.21	$4100.10	56922	1.20%	31.49%	135	$2965.17	$37757.71	-7.29	10.44
3	AVIONICS	$-1801.06	$2997.72	528	-17.65%	18.59%	12	$4066.05	$6383.98	-44.30	9.48
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$1311060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$-20.79	$358.42	382	-8.97%	22.01%	2	$1495.15	$301.18	-5.40	21.72
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$-27.55	$512.26	7629	9.37%	43.17%	37	$432.40	$1012.85	-6.37	42.88
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$54.54	$563.59	161	-3.20%	19.81%	8	$3809.17	$1224.81	1.43	12.22
16	INTRNAL COMBST ENG	$47.54	$240.74	11738	0.92%	19.10%	31	$886.75	$2451.77	5.36	8.75
17	MOTOR VEH PARTS	$33.35	$140.62	3848	12.52%	28.08%	21	$212.76	$776.23	15.68	25.06
18	TACOM - TOOLING	$189.92	$1409.87	2002	7.23%	37.73%	141	$2750.87	$4499.36	6.90	33.46
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$566.45	$927.95	5334	20.44%	43.55%	6	$2602.25	$1440.14	21.77	47.80
22	AIR COND - HEATERS	$514.74	$94.44	576	84.99%	55.89%	3	$1199.06	$375.33	42.93	32.51
23	AVL BRDG/TANK/OTHR	$-3.12	$62.03	8303	0.70%	38.86%	8	$127.64	$85.53	-2.44	22.27
24	POWER PLANT (MUST)	$-73.98	$160.67	38	-6.69%	13.99%	8	$1067.11	$389.77	-6.93	11.97
25	FIREFIHT/FRKLF TRK	$-379.75	$2183.67	196	0.71%	15.25%	5	$11006.40	$8743.91	-5.27	8.06
26	PUMPS/COMPRESSORS	$-498.67	$569.12	1295	-1.83%	28.57%	15	$2907.31	$2290.67	-17.15	10.44
27	TMEO/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.58%	6	$2289.51	$2268.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-244.94	$958.68	11542	-3.49%	17.92%	28	$9195.83	$5006.61	-2.66	9.61
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.36%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$-29.37	$1103.14	12905	0.41%	39.50%	133	$1561.96	$5225.78	-1.88	26.24
31	BEA - AVIATION	$-106.59	$12987.55	74040	0.64%	33.35%	481	$4297.82	$73859.31	-2.48	16.27
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$-2.11	$488.03	4211	17.86%	48.50%	22	$392.24	$903.77	-0.54	45.61
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$327.49	$838.54	2891	6.56%	33.29%	107	$4128.49	$4129.06	7.93	15.86
36	BEA - OTHER EQUIP	$224.54	$3206.62	23224	-2.15%	36.48%	148	$5816.65	$10205.88	3.86	16.37
37	BEA/OSD AVIATION	$-166.71	$12537.09	129750	-1.13%	33.87%	812	$4928.04	$88481.12	-3.38	14.23
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$-30.41	$522.89	7629	8.71%	44.48%	37	$432.40	$1012.85	-7.03	43.76
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$66.25	$568.36	17749	5.99%	34.49%	201	$977.40	$2638.70	6.78	22.07
42	BEA/OSD OTHR EQUIP	$187.58	$2477.45	40866	-0.70%	37.02%	216	$4016.14	$8167.07	4.67	23.93
43	OSD-MSLS/ACFT/WTCV	$-11.19	$17400.50	147499	-0.03%	33.60%	1013	$4452.65	$83001.94	-0.25	18.19
44	OSD-AMMO/CE/OTHER	$98.57	$2214.96	48495	0.41%	38.07%	253	$3452.37	$7620.49	2.86	24.49
45	M S C INDICES	$18.60	$16062.74	195994	1.52%	34.96%	1266	$4205.15	$72105.79	0.44	20.23
46	BEA (ONLY) INDICES	$-16.67	$11045.48	104366	1.43%	34.71%	758	$4473.53	$62408.68	-0.37	16.78
47	BEA/OSD INDICES	$-66.43	$10266.22	195994	0.36%	33.00%	1266	$4205.15	$72105.79	-1.58	17.35
48	O S D INDICES	$15.97	$15135.29	195994	0.06%	34.54%	1266	$4205.15	$72105.79	0.38	19.68
49	G N P	$-64.73	$13274.99	195994	-1.31%	34.24%	1266	$4205.15	$72105.79	-1.54	18.98
50	NO UPDATING	$-586.07	$16139.76	195994	-15.69%	30.59%	1266	$4205.15	$72105.79	-13.94	18.09

ERROR DISTRIBUTIONS - RUN 10 - QRATIO = 3.0

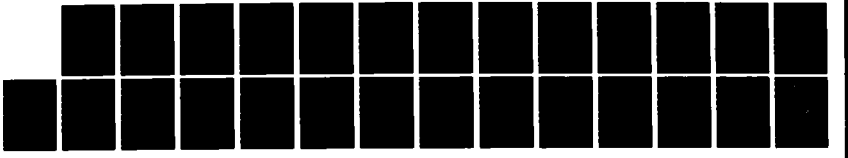
CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX$<********** EOQ FILE ON (RATIOS: Q= 3.0,$= 1.3;G$= 3.0) MIN 365 DAYS,BLOCKS 2(*10)

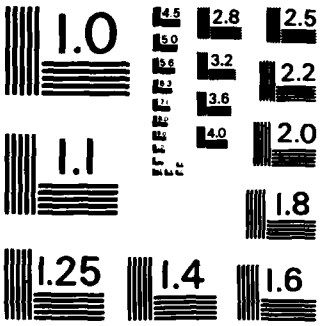
	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	62	83	92	0	0	1	3	4	12	19	52	82	96	97	97	98	99	99	99	99	99	99
2	AIRCRAFT ENGINE	73	76	98	0	0	0	0	0	21	24	95	97	98	99	99	99	99	99	99	99	99	99
3	AVIONICS	3	5	5	0	0	4	93	94	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6	COMBIN ORD &ACCESR	0	58	58	0	0	0	0	41	41	41	41	41	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	30	36	54	0	0	15	25	25	42	47	63	78	78	80	80	89	89	99	99	99	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	89	91	91	0	0	0	0	6	6	8	13	97	97	97	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17	MOTOR VEH PARTS	41	58	64	0	0	0	0	0	6	7	37	49	64	64	75	95	99	100	100	100	100	100
18	TACOM - TOOLING	42	65	77	0	0	0	1	11	14	25	33	68	79	89	89	93	95	96	96	99	99	99
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	80	100	100	100	100
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	93	93	93	93	93	99	99
23	AVL BRDG/TANK/OTHR	79	79	79	0	0	3	3	18	18	18	22	97	97	97	97	97	97	100	100	100	100	100
24	POWER PLANT (MUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25	FIREFIHT/FRKLF TRK	86	86	99	0	0	0	0	0	12	12	90	99	99	99	99	99	99	99	99	99	99	99
26	PUMPS/COMPRESSORS	12	14	95	0	0	0	0	4	83	83	90	96	98	99	99	99	99	100	100	100	100	100
27	THEO/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28	GEN/LIGHT SETS/UTL	78	98	98	0	0	1	1	1	1	4	81	83	99	99	99	99	99	99	99	99	99	99
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	18	63	74	0	0	0	1	5	12	55	65	73	75	90	97	97	99	99	99	99	99	100
31	BEA - AVIATION	47	80	96	0	0	0	0	2	16	34	42	82	97	98	99	99	99	99	99	99	99	99
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	18	32	60	0	0	0	17	17	45	58	75	76	77	77	77	77	78	98	98	100	100	100
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	48	86	93	0	0	0	0	3	7	7	17	55	95	96	97	99	99	99	99	100	100	100
36	BEA - OTHER EQUIP	62	75	86	0	0	0	0	1	6	9	71	71	81	88	99	99	99	99	99	99	99	100
37	BEA/OSD AVIATION	57	87	97	0	0	0	0	1	11	32	43	90	98	99	99	99	99	99	99	99	99	100
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	28	39	52	0	0	17	25	25	40	50	70	78	78	78	80	88	89	99	99	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	48	82	89	0	0	0	0	5	9	14	23	63	91	94	95	97	98	98	98	99	99	99
42	BEA/OSD OTHR EQUIP	54	69	86	0	0	0	1	2	11	15	67	70	80	88	97	98	98	98	98	99	99	100
43	OSD-MSLS/ACFT/WTCV	41	71	97	0	0	0	1	1	11	34	43	75	82	99	99	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	54	73	85	0	0	1	1	2	11	16	68	70	85	88	97	97	98	98	98	99	99	100
45	M S C INDICES	47	66	96	0	0	0	1	1	13	26	61	74	79	98	99	99	99	99	99	99	99	99
46	BEA (ONLY) INDICES	51	79	93	0	0	0	0	2	13	26	50	78	92	95	99	99	99	99	99	99	99	100
47	BEA/OSD INDICES	56	83	94	0	0	0	0	1	11	28	48	85	94	96	98	99	99	99	99	99	99	99
48	O S D INDICES	44	71	95	0	0	0	1	1	11	30	48	74	83	96	98	99	99	99	99	99	99	99
49	G N P	48	86	90	0	0	0	1	6	9	29	48	78	95	96	99	99	99	99	99	99	99	100
50	NO UPDATING	43	58	79	0	0	1	6	20	38	52	73	96	96	99	99	99	99	99	99	99	99	99

AD-A162 505 PRICE UPDATE METHODOLOGY FOR USE IN MAINTENANCE EXPENDITURE LIMITS (MEL) FOR SECONDARY ITEMS(U) ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY ABERDEEN PROVING GROU .. U R POSKUS ET AL. NOV 84 F/G 14/1 NL

2/2

UNCLASSIFIED





ERROR DISTRIBUTIONS - RUN 11 - URATIO = 1.5

CHNO: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** ESS FALT ON (RATIOS:0= 2.0,S= 1.5,G= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-17.03	$691.75	76539	0.06%	33.50%	651	$1927.85	$4650.71	-0.92	19.40
2	AIRCRAFT ENGINE	$-216.57	$4114.85	56334	2.21%	31.30%	140	$2976.64	$37953.39	-7.28	10.67
3	AVIONICS	$-1816.14	$3008.03	523	-16.25%	18.80%	11	$4098.44	$6405.78	-44.31	9.48
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.81	$5893.96	159	-4.34%	17.32%	10	$2040519.16	$1311060.46	4.13	21.26
6	CANNON GND &ACCESS	$-80.79	$358.42	382	-8.97%	22.01%	2	$1495.15	$301.10	-5.40	21.72
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$5.45	$565.55	7899	11.31%	42.05%	37	$527.70	$1116.01	1.03	41.29
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$161.21	$156.93	155	1.99%	15.26%	7	$3692.38	$1091.91	4.37	5.57
16	INTERNAL COMBST ENG	$47.64	$240.68	11737	1.16%	19.02%	31	$886.54	$2451.78	5.37	8.74
17	MOTOR VEH PARTS	$31.10	$142.41	3897	9.19%	27.94%	24	$224.65	$779.17	13.84	25.37
18	TACOM - TOOLING	$195.87	$1412.75	1975	9.45%	35.79%	137	$2777.18	$4519.79	7.02	32.98
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$566.45	$927.95	5334	20.44%	43.55%	6	$2602.25	$1440.14	21.77	47.80
22	AIR COND - HEATERS	$420.83	$117.87	605	40.63%	30.15%	4	$1172.83	$385.53	35.91	8.48
23	AVL DROG/TANK/OTHR	$-5.76	$51.34	8256	-11.40%	23.53%	7	$125.29	$79.90	-4.60	17.72
24	POWER PLANT (MUST)	$-73.98	$160.67	30	-6.69%	13.99%	0	$1067.11	$389.87	-6.93	11.97
25	FIREFIGHT/FAMLY TRK	$-763.45	$2393.57	202	-3.18%	16.41%	6	$11569.82	$9193.77	-6.60	9.81
26	PUMPS/COMPRESSORS	$-479.89	$579.23	1226	0.81%	27.75%	14	$2950.21	$2346.90	-16.27	9.67
27	TMEQ/TRL E/SURV IN	$259.20	$234.60	150	12.79%	0.50%	6	$2289.51	$2260.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-112.80	$1107.86	12187	-0.11%	20.12%	31	$9041.96	$4932.90	-1.25	11.94
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	8.69
30	OTHER TRP SPT ITEM	$-29.15	$1096.86	13886	0.56%	38.19%	135	$1582.88	$5211.67	-1.84	25.73
31	OEA - AVIATION	$-111.35	$13861.62	73426	0.54%	31.03%	481	$4315.18	$74167.26	-2.58	16.89
32	OEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	OEA - ELECTRONICS	$-1.71	$488.27	4205	20.05%	48.57%	21	$391.39	$904.13	-0.44	45.66
34	OEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	OEA - VEHICLES	$323.39	$834.58	2918	8.29%	30.38%	105	$4111.43	$4119.18	7.87	15.63
36	OEA - OTHER EQUIP	$326.38	$3135.00	24029	-2.25%	35.46%	151	$5724.14	$9089.05	5.70	17.91
37	OEA/OSD AVIATION	$-163.25	$12356.63	133555	-0.86%	32.72%	812	$4805.72	$87214.34	-3.40	14.06
38	OEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	OEA/OSD ELECTRONIC	$2.16	$553.95	7899	10.61%	44.16%	37	$527.70	$1116.01	0.41	41.97
40	OEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	OEA/OSD VEHICLES	$67.35	$564.09	17764	7.27%	32.00%	199	$976.01	$2634.53	6.98	21.80
42	OEA/OSD OTHR EQUIP	$241.64	$2486.24	41531	-0.80%	34.44%	221	$4060.19	$8114.86	5.95	24.52
43	OSD-MSLS/ACFT/MTCV	$-11.82	$17179.01	151319	0.38%	32.38%	1011	$4356.13	$81949.58	-0.27	18.05
44	OSD-AMMO/CE/OTHER	$145.53	$2219.58	49430	0.56%	35.99%	258	$3495.78	$7563.22	4.16	24.97
45	N S C INDICES	$26.17	$1587.42	200749	1.90%	33.54%	1269	$4144.27	$71248.54	0.63	20.20
46	OEA (ONLY) INDICES	$8.16	$10995.56	105370	1.60%	33.26%	758	$4484.97	$62110.92	0.16	17.30
47	OEA/OSD INDICES	$-52.57	$10145.25	200749	0.76%	33.60%	1269	$4144.27	$71248.54	-1.27	17.57
48	O S D INDICES	$26.92	$14955.59	200749	0.42%	33.15%	1269	$4144.27	$71248.54	0.65	19.77
49	G N P	$-52.63	$13117.52	200749	-0.92%	33.03%	1269	$4144.27	$71248.54	-1.27	19.10
50	NO UPDATING	$-565.52	$15948.12	200749	-15.16%	30.10%	1269	$4144.27	$71248.54	-13.65	18.09

ERROR DISTRIBUTIONS - RUN 10 - QRATIO = 3.0

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EOQ FILE ON (RATIOS: Q= 3.0,S= 1.3,GS= 3.0) MIN 365 DAYS,BLOCKS 2(*10)

INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	62	83	92	0	0	1	3	4	12	19	52	82	96	97	97	98	99	99	99	99	99	99
2 AIRCRAFT ENGINE	73	76	98	0	0	0	0	0	21	24	95	97	98	99	99	99	99	99	99	99	99	99
3 AVIONICS	3	5	5	0	0	4	93	94	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4 AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6 COMBIN ORD &ACCESR	0	58	58	0	0	0	0	41	41	41	41	41	100	100	100	100	100	100	100	100	100	100
7 AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 COMMO & ELECTRONIC	30	36	54	0	0	15	25	25	42	47	63	78	78	80	80	89	89	99	99	99	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	89	91	91	0	0	0	0	6	6	8	13	97	97	97	100	100	100	100	100	100	100	100
16 INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17 MOTOR VEH PARTS	41	58	64	0	0	0	0	0	6	7	37	49	64	64	75	95	99	100	100	100	100	100
18 TACOM - TOOLING	42	65	77	0	0	0	1	11	14	25	33	68	79	89	89	93	95	96	96	99	99	99
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	80	100	100	100	100
22 AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	93	93	93	93	93	99	99
23 AVL BRDG/TANK/OTHR	79	79	79	0	0	3	3	18	18	18	22	97	97	97	97	97	97	100	100	100	100	100
24 POWER PLANT (MUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25 FIREFIHT/FRKLF TNK	86	86	99	0	0	0	0	0	12	12	90	99	99	99	99	99	99	99	99	99	99	99
26 PUMPS/COMPRESSORS	12	14	95	0	0	0	0	4	83	83	90	96	98	99	99	99	99	100	100	100	100	100
27 THEO/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28 GEN/LIGHT SETS/UTL	78	98	98	0	0	0	1	1	1	1	4	81	83	99	99	99	99	99	99	99	99	99
29 RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100
30 OTHER TRP SPT ITEM	18	63	74	0	0	0	1	5	12	55	65	73	75	80	97	97	99	99	99	99	99	100
31 BEA - AVIATION	47	80	96	0	0	0	0	2	16	34	42	82	97	98	99	99	99	99	99	99	99	99
32 BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 BEA - ELECTRONICS	18	32	60	0	0	0	17	17	45	58	75	76	77	77	77	77	78	98	98	100	100	100
34 BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 BEA - VEHICLES	48	68	93	0	0	0	0	3	7	7	17	55	95	96	97	99	99	99	99	100	100	100
36 BEA - OTHER EQUIP	62	75	86	0	0	0	0	1	6	9	71	71	81	88	99	99	99	99	99	99	99	100
37 BEA/OSD AVIATION	57	87	97	0	0	0	0	1	11	32	43	90	98	99	99	99	99	99	99	99	99	100
38 BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 BEA/OSD ELECTRONIC	28	38	52	0	0	17	25	25	40	50	70	78	78	78	80	88	89	99	99	100	100	100
40 BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 BEA/OSD VEHICLES	48	82	89	0	0	0	0	5	9	14	23	63	91	94	95	97	98	98	98	99	99	99
42 BEA/OSD OTHR EQUIP	54	69	86	0	0	0	1	2	11	15	67	70	80	88	97	98	98	98	98	99	99	100
43 OSD-MSLS/ACFT/WICV	41	71	97	0	0	0	1	1	11	34	43	75	82	99	99	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	54	73	85	0	0	1	1	2	11	16	68	70	85	88	97	97	98	98	98	99	99	100
45 M S C INDICES	47	66	96	0	0	0	1	1	13	26	61	74	79	98	99	99	99	99	99	99	99	99
46 BEA (ONLY) INDICES	51	79	93	0	0	0	0	2	13	26	50	78	92	95	99	99	99	99	99	99	99	100
47 BEA/OSD INDICES	56	83	94	0	0	0	0	1	11	28	48	85	94	96	98	99	99	99	99	99	99	99
48 O S D INDICES	44	71	95	0	0	0	1	1	11	30	48	74	83	96	98	99	99	99	99	99	99	99
49 G N P	48	86	90	0	0	0	1	6	9	29	48	78	95	96	99	99	99	99	99	99	99	100
50 NO UPDATING	43	58	79	0	0	1	6	20	38	52	73	96	96	99	99	99	99	99	99	99	99	99

ERROR DISTRIBUTIONS - RUN 11 - URATIO = 1.5

CHNG: TSAR ,TAPE: PHR UP> 1.00 500.00<MAX<********** ERR FELT ON (RATIOS:0= 2.0,8= 1.5,6= 3.0) MIN 365 DAYS,BLOCKS 2(*10)

INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	63	84	92	0	0	1	3	4	12	18	53	82	96	97	98	99	99	99	99	99	99	99
2 AIRCRAFT ENGINE	72	75	98	0	0	0	0	0	21	24	95	96	97	99	99	99	99	99	99	99	99	99
3 AVIONICS	3	5	5	0	0	4	94	94	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4 AGR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6 COMBIN GRD EACCESR	0	50	50	0	0	0	0	41	41	41	41	41	100	100	100	100	100	100	100	100	100	100
7 ARMD OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 ARMD UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 RIFL REP CENTAFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 COMPO & ELECTRONIC	32	37	51	0	0	12	20	20	33	37	46	70	70	71	78	91	91	99	99	99	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	96	97	97	0	0	0	0	0	0	1	7	97	97	97	100	100	100	100	100	100	100	100
16 INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17 MOTOR VEH PARTS	42	57	67	0	0	0	0	0	9	10	38	52	67	67	77	95	99	100	100	100	100	100
18 TACOM - TOOLING	42	65	78	0	0	0	1	10	13	25	32	68	79	89	89	93	95	96	96	99	99	99
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	100	100	100	100	100
22 AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	90	97	97	99	99	99	99	99	99
23 AVL BRDG/TANK/OTHR	80	80	80	0	0	3	3	19	19	19	22	100	100	100	100	100	100	100	100	100	100	100
24 POWER PLANT (NUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25 FIREFIGHT/FRKLF TRK	80	80	100	0	0	0	0	0	19	19	91	99	99	100	100	100	100	100	100	100	100	100
26 PUMPS/COMPRESSORS	13	15	99	0	0	0	0	0	83	83	89	96	98	99	99	99	99	100	100	100	100	100
27 TNEG/TOL E/SURV EN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28 GEN/LIGHT SETS/UTL	75	95	95	0	0	1	1	1	1	4	78	88	96	96	99	99	99	99	99	99	99	99
29 RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30 OTHER TRP SPT ITEM	19	64	75	0	0	0	1	4	11	54	63	74	76	80	97	97	99	99	99	99	99	100
31 OEA - AVIATION	47	80	96	0	0	0	0	2	16	34	42	82	97	98	99	99	99	99	99	99	99	99
32 OEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 OEA - ELECTRONICS	19	32	60	0	0	0	17	17	44	57	75	76	77	77	77	77	78	98	98	99	99	99
34 OEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 OEA - VEHICLES	48	88	93	0	0	0	0	2	7	7	17	56	95	96	96	99	99	99	99	99	99	99
36 OEA - OTHER EQUIP	59	71	82	0	0	0	0	1	5	9	67	68	77	83	96	99	99	99	99	99	99	100
37 OEA/OSD AVIATION	57	87	97	0	0	0	0	1	11	33	44	90	98	99	99	99	99	99	99	99	99	100
38 OEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 OEA/OSD ELECTRONIC	30	30	50	0	0	13	20	20	31	39	51	70	70	71	78	91	91	99	99	99	99	99
40 OEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 OEA/OSD VEHICLES	48	82	89	0	0	0	0	4	8	14	23	63	91	94	95	97	98	98	98	99	99	100
42 OEA/OSD OTHR EQUIP	53	65	82	0	0	0	1	2	10	15	66	68	76	84	95	98	98	98	98	99	99	99
43 OSD-ASLS/ACFT/MTCV	41	71	97	0	0	0	1	1	10	34	43	75	82	99	99	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	52	69	81	0	0	1	1	2	11	16	66	68	81	84	95	98	98	98	98	99	99	100
45 N S C INDICES	47	65	96	0	0	0	1	1	13	26	61	73	78	97	99	99	99	99	99	99	99	99
46 OEA (ONLY) INDICES	50	78	92	0	0	0	0	2	13	26	49	77	91	94	98	99	99	99	99	99	99	99
47 OEA/OSD INDICES	56	82	94	0	0	0	0	1	11	29	48	85	93	95	98	99	99	99	99	99	99	99
48 O S D INDICES	43	71	94	0	0	0	1	1	11	30	48	74	82	95	98	99	99	99	99	99	99	99
49 G N P	48	85	89	0	0	0	1	6	9	29	48	77	94	95	98	99	99	99	99	99	99	100
50 NB UPDATING	43	58	79	0	0	1	6	19	37	51	73	95	96	99	99	99	99	99	99	99	100	100

ERROR STATISTICS - RUN 12 - URATIO = 2.0

CMND: TSAR ,TAPE: PNR UP> 1.00 >00.00<MAXS<•••••••••• EQQ FILT ON (RATIOS:Q= 2.0,S= 2.0;GS= 3.0) MIN 365 DAYS,BLOCKS 2(•10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$2.58	$716.18	75465	0.37%	35.54%	692	$1951.38	$4686.41	0.13	21.92
2	AIRCRAFT ENGINE	$-164.49	$3754.21	67993	2.27%	33.34%	152	$2489.49	$34564.10	-6.61	13.52
3	AVIONICS	$-1801.06	$2997.72	528	-17.65%	18.59%	12	$4066.05	$6383.98	-44.30	9.48
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$8111060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$-80.79	$358.42	382	-8.97%	22.01%	2	$1495.15	$301.18	-5.40	21.72
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$16.69	$538.13	8358	11.40%	44.28%	40	$475.44	$1049.33	3.51	44.86
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$54.54	$563.59	161	-3.20%	19.81%	8	$3809.17	$1224.81	1.43	12.22
16	INTRNAL COMBST ENG	$47.28	$241.17	11761	-0.89%	20.46%	32	$886.40	$2451.33	5.33	8.83
17	MOTOR VEH PARTS	$30.40	$143.95	3898	7.82%	28.18%	25	$227.36	$797.27	13.37	25.57
18	TACOM - TOOLING	$193.17	$1413.45	1987	8.69%	37.39%	142	$2767.30	$4511.65	6.98	33.40
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$607.98	$622.83	4206	5.71%	32.18%	7	$2417.18	$1592.64	25.15	30.31
22	AIR COND - HEATERS	$419.94	$117.43	606	36.40%	40.09%	5	$1170.85	$386.31	35.87	8.34
23	AVL BRDG/TANK/OTHR	$-3.12	$62.03	8303	0.70%	38.86%	8	$127.64	$85.53	-2.44	22.27
24	POWER PLANT (MUST)	$-73.98	$160.67	38	-6.69%	13.99%	8	$1067.11	$389.77	-6.93	11.97
25	FIREFIGHT/FARLF TRK	$-763.45	$2393.57	202	-3.17%	16.41%	6	$11569.02	$9193.77	-6.60	9.01
26	PUMPS/COMPRESSORS	$-479.89	$579.23	1226	0.81%	27.75%	14	$2950.21	$2346.90	-16.27	9.67
27	THEO/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.58%	6	$2289.51	$2268.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-106.33	$1110.42	12254	1.59%	31.09%	36	$9000.89	$4951.35	-1.18	12.20
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30	OTHER TRP SPT ITEM	$-28.56	$1090.79	13181	1.61%	39.86%	139	$1573.51	$5177.45	-1.82	26.20
31	BEA - AVIATION	$-91.95	$12871.28	75393	1.49%	34.41%	508	$4231.34	$73195.40	-2.17	17.43
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$21.12	$462.85	4785	19.08%	49.81%	24	$376.12	$850.16	5.62	48.13
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$321.65	$837.88	2924	7.52%	32.21%	110	$4101.77	$4116.09	7.84	15.96
36	BEA - OTHER EQUIP	$329.86	$3124.92	25000	1.11%	38.63%	156	$5691.86	$9863.82	5.80	18.16
37	BEA/OSD AVIATION	$-133.72	$11895.45	144145	-0.72%	34.83%	866	$4461.60	$83958.81	-3.00	15.42
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$14.67	$547.19	8358	10.82%	45.54%	40	$475.44	$1049.33	3.09	45.89
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$65.55	$568.58	17787	5.89%	34.05%	207	$978.55	$2636.75	6.70	22.13
42	BEA/OSD OTHR EQUIP	$232.62	$2495.32	40693	0.08%	36.46%	233	$4059.73	$8201.67	5.73	21.37
43	OSD-MSLS/ACFT/WTCV	$4.08	$16607.28	161932	0.25%	34.16%	1073	$4079.02	$79225.90	0.10	18.96
44	OSD-AMMO/CE/OTHER	$137.24	$2212.79	49051	1.40%	37.96%	273	$3448.99	$7603.23	3.98	22.11
45	M S C INDICES	$35.69	$15482.14	210983	2.01%	35.42%	1346	$3932.54	$69505.30	0.91	20.38
46	BEA (ONLY) INDICES	$21.79	$10356.45	108102	2.78%	35.72%	798	$4394.96	$61323.85	0.50	18.24
47	BEA/OSD INDICES	$-40.38	$9896.28	210983	0.78%	35.48%	1346	$3932.54	$69505.30	-1.03	17.58
48	O S D INDICES	$35.04	$14588.45	210983	0.48%	34.97%	1346	$3932.54	$69505.30	0.89	19.70
49	G N P	$-41.98	$12795.48	210983	-0.91%	34.85%	1346	$3932.54	$69505.30	-1.07	18.91
50	NO UPDATING	$-531.31	$15557.38	210983	-15.33%	32.01%	1346	$3932.54	$69505.30	-13.51	18.22

ERROR DISTRIBUTIONS - RUN 12 - URATIO = 2.0

CMND: ISAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS: Q= 2.0,S= 2.0,G= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX	NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	61	82	91	0	0	1	3	4	12	19	52	81	94	95	96	97	98	99	99	99	99	99
2	AIRCRAFT ENGINE	71	75	97	0	0	0	0	0	21	24	94	96	97	98	99	99	99	99	99	99	100	100
3	AVIONICS	3	5	5	0	0	4	93	94	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6	COMBIN ORD &ACCESR	0	58	58	0	0	0	0	41	41	41	41	41	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL MEP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	25	29	44	0	0	13	21	21	35	39	53	65	65	66	66	87	91	99	99	99	99	99
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	89	91	91	0	0	0	0	6	6	8	13	97	97	97	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17	MOTOR VEH PARTS	41	57	67	0	0	0	0	0	10	11	39	53	67	67	77	95	99	99	99	99	99	99
18	TACOM - TOOLING	42	65	77	0	0	0	1	11	14	25	33	68	79	88	89	93	95	96	96	99	99	99
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	18	24	67	0	0	0	6	6	6	12	14	30	30	73	73	73	100	100	100	100	100	100
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	97	97	99	99	99	99	99
23	AVL BRDG/TANK/OTHR	79	79	79	0	0	3	3	18	18	18	22	97	97	97	97	97	97	100	100	100	100	100
24	POWER PLANT (MUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25	FIREFIGHT/FRKLF TRK	80	80	100	0	0	0	0	0	19	19	91	99	99	100	100	100	100	100	100	100	100	100
26	PUMPS/COMPRESSORS	13	15	99	0	0	0	0	0	83	83	89	96	98	99	99	99	99	100	100	100	100	100
27	THEO/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28	GEN/LIGHT SETS/UTL	75	95	95	0	0	1	1	1	1	4	78	80	96	96	99	99	99	99	99	99	99	99
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	19	64	75	0	0	0	1	5	12	54	63	74	76	80	97	97	98	99	99	99	99	100
31	BEA - AVIATION	47	80	96	0	0	0	0	2	16	34	42	81	97	98	98	98	99	99	99	99	100	100
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	17	29	54	0	0	0	15	15	41	53	69	70	70	70	70	71	80	98	98	100	100	100
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	48	88	93	0	0	0	0	3	7	7	17	56	95	96	96	99	99	99	99	100	100	100
36	BEA - OTHER EQUIP	59	71	82	0	0	0	0	1	5	9	67	68	77	83	96	99	99	99	99	99	99	100
37	BEA/OSD AVIATION	57	86	96	0	0	0	0	1	11	32	43	89	97	98	98	99	99	99	99	99	99	100
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	23	31	44	0	0	14	21	21	33	41	58	65	65	66	66	86	91	99	99	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	48	81	89	0	0	0	0	5	9	15	23	63	91	94	95	97	98	98	98	99	99	100
42	BEA/OSD OTHR EQUIP	54	67	81	0	0	0	1	2	8	13	65	67	75	84	95	98	98	99	99	99	99	100
43	OSD-MSLS/ACFT/WTCV	41	70	96	0	0	0	1	1	11	34	43	75	82	98	98	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	53	71	80	0	0	1	2	3	8	14	65	67	80	83	94	97	98	99	99	99	99	100
45	M S C INDICES	46	65	95	0	0	0	1	1	12	26	60	73	78	97	98	98	99	99	99	99	99	99
46	BEA (ONLY) INDICES	50	77	91	0	0	0	0	2	13	26	49	77	91	93	97	98	99	99	99	99	99	99
47	BEA/OSD INDICES	56	82	93	0	0	0	0	2	10	28	47	84	93	95	98	98	99	99	99	99	99	99
48	O S D INDICES	43	71	93	0	0	0	1	2	10	30	47	73	81	95	98	98	99	99	99	99	99	99
49	G N P	47	84	88	0	0	0	1	6	9	29	47	77	94	95	98	98	99	99	99	99	99	100
50	NO UPDATING	43	58	78	0	0	1	6	19	37	51	72	95	96	98	99	99	99	99	99	99	99	99

ERROR STATISTICS - RUN 13 - 0 DAYS MIN

CNBD: TSAR ,TAPE: PMR UP> 1.00 500.00<MAX<********** EOQ FILT ON (RATIOS:0= 2.0,8= 1.3)6= 3.0) MIN 0 DAYS,BLOCKS 2(+10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-4.70	$564.70	171036	1.54%	25.90%	1507	$2070.07	$4640.09	-0.23	14.06
2	AIRCRAFT ENGINE	$-71.35	$2408.26	165299	1.89%	23.98%	366	$1261.58	$22256.31	-5.66	11.32
3	AVIONICS	$-1498.93	$2872.63	616	-5.57%	16.79%	22	$4049.63	$6097.78	-37.01	19.97
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$140825.34	$456568.20	388	-0.79%	17.62%	14	$1652760.24	$1131361.68	8.52	19.99
6	COMBIN ORD &ACCESS	$167.69	$0.00	250	13.04%	0.00%	1	$1286.35	$0.00	13.04	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	COMMO & ELECTRONIC	$0.20	$425.01	12657	4.89%	32.07%	76	$544.56	$1126.64	0.04	31.95
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMD GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$104.61	$581.95	209	-1.37%	17.06%	15	$3353.54	$1291.70	5.50	15.97
16	INTRNAL COMBST ENG	$50.69	$261.72	13597	2.39%	14.35%	72	$919.87	$2493.43	5.51	9.13
17	MOTOR VEH PARTS	$60.38	$276.27	5564	12.66%	34.34%	48	$281.55	$791.42	21.45	46.88
18	TACOM - TOOLING	$48.68	$457.80	3216	7.50%	32.50%	249	$2559.36	$4370.87	1.90	21.85
19	TACTICAL VEHICLES	$119.31	$0.00	38	10.82%	0.00%	1	$634.07	$0.00	10.82	0.00
20	OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$408.38	$915.88	6892	9.90%	33.53%	12	$2844.52	$1681.07	14.36	42.64
22	AIR COND - HEATERS	$448.10	$169.68	698	22.13%	45.11%	13	$2304.79	$2676.05	19.44	29.48
23	AVL BRDG/TANK/OTHR	$-5.09	$51.98	8657	-6.77%	21.27%	12	$130.92	$100.60	-3.89	10.68
24	POWER PLANT (MUST)	$487.25	$384.45	161	1.78%	22.79%	14	$1470.07	$1414.39	33.14	36.26
25	FIREFIGHT/FRKLF TRK	$-579.75	$2183.67	196	0.71%	15.25%	5	$11006.40	$8743.91	-5.27	8.06
26	PUMPS/COMPRESSORS	$-469.60	$540.72	1448	-2.75%	20.00%	30	$2061.56	$2323.33	-16.41	10.56
27	TNEQ/TBL E/SURV EN	$259.20	$234.60	150	12.79%	8.50%	6	$2289.51	$2260.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-840.55	$1795.50	14346	4.46%	34.50%	55	$9562.16	$5490.59	-8.79	17.25
29	RAILROAD EQUIPMENT	$30617.71	$4426.90	147	9.58%	14.14%	3	$104229.92	$14628.59	29.38	8.75
30	OTHER TRP SPT ITEM	$-23.89	$807.50	24795	0.36%	26.42%	308	$1542.84	$4052.74	-1.55	21.44
31	OEA - AVIATION	$-49.35	$8660.81	166588	1.47%	25.09%	1200	$2844.18	$52645.67	-1.74	13.73
32	OEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	OEA - ELECTRONICS	$-10.21	$302.10	7116	6.38%	33.09%	38	$323.87	$823.22	-3.15	38.38
34	OEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	OEA - VEHICLES	$109.47	$511.39	10064	7.30%	20.09%	224	$1567.57	$3068.24	6.98	15.76
36	OEA - OTHER EQUIP	$-89.69	$3006.62	31078	-0.09%	27.43%	320	$5644.91	$9520.41	-1.59	20.52
37	OEA/OSD AVIATION	$22.25	$10628.14	338059	1.09%	25.22%	1909	$3186.34	$62457.72	0.70	14.62
38	OEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	OEA/OSD ELECTRONIC	$-1.53	$433.12	12657	4.64%	33.10%	76	$544.56	$1126.64	-0.28	32.51
40	OEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	OEA/OSD VEHICLES	$58.05	$456.35	22624	6.46%	30.43%	387	$1017.94	$2673.62	5.70	20.89
42	OEA/OSD OTHR EQUIP	$-25.50	$2250.10	57748	0.62%	20.42%	451	$3815.10	$7378.16	-0.67	25.29
43	OSD-MSLS/ACFT/MTCV	$74.70	$13119.84	360683	1.80%	25.92%	2286	$3050.32	$60473.15	2.45	16.61
44	OSD-AMMO/CE/OTHER	$-61.60	$2002.87	70405	1.03%	20.06%	527	$3227.14	$6815.89	-1.91	25.41
45	N S C INDICES	$58.86	$12884.03	431088	2.32%	26.70%	2813	$3079.20	$55383.52	1.91	19.17
46	OEA (ONLY) INDICES	$-46.45	$7712.07	214838	2.03%	26.31%	1702	$3106.84	$46518.24	-1.50	16.04
47	OEA/OSD INDICES	$17.03	$9448.86	431088	1.83%	26.81%	2813	$3079.20	$55383.52	0.55	17.13
48	O S D INDICES	$52.44	$12028.12	431088	1.66%	26.50%	2813	$3079.20	$55383.52	1.70	18.49
49	G N P	$19.38	$11197.40	431088	1.12%	26.34%	2813	$3079.20	$55383.52	0.63	18.39
50	NO UPDATING	$-235.82	$12366.89	431088	-5.41%	25.74%	2813	$3079.20	$55383.52	-7.66	19.25

ERROR DISTRIBUTIONS - RUN 13 - 0 DAYS MIN

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EOQ FILT ON (RATIOS:Q= 2.0,S= 1.3,GS= 3.0) MIN 0 DAYS,BLOCKS 2(+10)

INDEX	NAME	DOLLARS +/-10%	WITHIN ERROR +/-20%	+/-30%	CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	75	89	96	0	0	0	0	2	5	13	39	80	95	98	99	99	99	99	99	99	99	99
2	AIRCRAFT ENGINE	73	89	98	0	0	0	0	1	10	21	82	94	97	99	99	99	99	99	99	99	99	100
3	AVIONICS	17	18	19	0	0	3	80	80	81	82	85	99	100	100	100	100	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH ENCLAVIONC	26	55	83	0	0	0	0	0	7	23	36	49	62	83	100	100	100	100	100	100	100	100
6	COMBEN ORD &ACCESR	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	45	59	75	0	0	7	12	13	22	25	49	78	82	89	93	93	93	99	99	100	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	18	91	91	0	0	0	7	7	7	8	23	26	90	90	100	100	100	100	100	100	100	100
16	INTRNAL COMBST ENG	85	94	97	0	0	0	0	1	4	5	12	90	99	99	99	99	100	100	100	100	100	100
17	MOTOR VEH PARTS	59	68	68	0	0	0	0	3	4	4	25	64	72	72	81	92	92	92	92	92	100	100
18	TACOM - TOOLING	65	84	86	0	0	0	1	7	8	17	37	82	93	94	96	96	98	98	99	99	99	100
19	TACTICAL VEHICLES	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	35	38	86	0	0	0	0	0	25	26	55	63	64	86	86	86	86	86	100	100	100	100
22	AIR COND - HEATERS	56	57	57	0	0	0	0	0	0	0	0	56	57	57	97	97	97	97	97	97	100	100
23	AVL BRDG/TANK/OTHR	69	75	82	0	0	3	3	17	17	24	27	93	93	100	100	100	100	100	100	100	100	100
24	POWER PLANT (NUST)	47	50	54	0	0	0	0	0	0	4	7	16	55	55	55	55	55	100	100	100	100	100
25	FIREFINT/FRKLF TRK	86	86	99	0	0	0	0	0	0	12	12	90	99	99	99	99	99	99	99	99	99	99
26	PUMPS/COMPRESSORS	16	21	96	0	0	0	0	0	3	74	79	87	96	99	99	99	99	99	100	100	100	100
27	TMEQ/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28	GEN/LIGHT SETS/UTL	63	79	79	0	0	0	0	0	19	19	22	84	86	99	99	99	99	99	99	99	100	100
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TRP SPT ITEM	38	67	81	0	0	0	1	8	17	35	52	73	85	89	98	99	99	99	99	99	99	100
31	BEA - AVIATION	60	85	97	0	0	0	0	1	11	24	48	85	97	99	99	99	99	99	99	99	99	100
32	BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	BEA - ELECTRONICS	25	42	62	0	0	0	12	20	40	53	78	79	82	82	84	84	85	99	99	99	99	99
34	BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	BEA - VEHICLES	55	90	93	0	0	0	0	2	5	6	21	62	95	96	98	99	99	99	99	100	100	100
36	BEA - OTHER EQUIP	54	66	75	0	0	0	0	15	18	21	71	75	85	98	99	99	99	99	99	99	99	100
37	BEA/OSD AVIATION	58	83	98	0	0	0	0	1	6	21	40	79	90	99	99	99	99	99	99	99	99	100
38	BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	BEA/OSD ELECTRONIC	42	59	73	0	0	0	12	16	22	28	49	78	82	89	93	93	93	99	99	100	100	100
40	BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	BEA/OSD VEHICLES	59	88	91	0	0	0	0	4	6	18	27	69	95	96	97	98	98	99	99	99	99	99
42	BEA/OSD OTHR EQUIP	58	62	76	0	0	0	0	13	21	24	69	75	84	98	97	98	98	98	99	99	99	99
43	OSD-MSLS/ACFT/MTCV	48	73	98	0	0	0	0	1	7	22	36	71	81	99	99	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	58	66	76	0	0	0	1	13	21	24	69	75	87	98	97	98	98	98	99	99	100	
45	M S C INDICES	51	78	89	0	0	0	0	3	10	20	50	72	81	92	99	99	99	99	99	99	99	99
46	BEA (ONLY) INDICES	58	80	91	0	0	0	0	5	13	23	53	82	93	96	99	99	99	99	99	99	99	100
47	BEA/OSD INDICES	56	88	94	0	0	0	0	3	9	21	44	78	89	97	99	99	99	99	99	99	99	100
48	O S D INDICES	49	72	94	0	0	0	0	3	9	22	42	72	82	97	99	99	99	99	99	99	99	99
49	G N P	50	81	91	0	0	0	0	6	8	22	44	72	89	97	99	99	99	99	99	99	99	99
50	NO UPDATING	49	65	85	0	0	0	5	14	25	39	60	89	90	99	99	99	99	99	99	99	99	99

ERROR STATISTICS - RUN 14 - 167 DAYS MIN

CHNG: YEAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EDG FILT ON (RATIOS:0= 2.0,1= 1.3368= 3.0) MIN 167 DAYS,BLOCKS 2(*10)

INDEX NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1 AIR FRAME	$0.99	$605.79	102857	1.63%	30.11%	907	$1783.66	$3972.59	0.06	17.89
2 AIRCRAFT ENGINE	$-124.05	$3055.82	102365	2.26%	26.01%	209	$1809.59	$20237.56	-6.73	11.52
3 AVIONICS	$-1541.63	$2901.73	599	6.93%	18.21%	18	$4136.76	$6161.25	-37.27	19.79
4 AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5 AIR VEH ENCLAVIONC	$151398.94	$503372.11	251	-1.02%	17.36%	13	$1851428.02	$11650073.73	8.18	20.61
6 COMBIN ORD &ACCESR	$167.69	$0.00	250	13.04%	0.00%	1	$1206.35	$0.00	13.04	0.00
7 ANNO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8 ANNO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9 SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10 RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11 COMMO & ELECTRONIC	$-24.25	$586.53	5930	4.23%	32.70%	46	$793.41	$1260.51	-3.06	35.76
12 MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13 MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14 COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15 CONSTRUCTION EQUIP	$311.88	$340.17	185	0.71%	15.47%	10	$3421.43	$1272.97	9.12	9.64
16 INTRNAL COMBST ENG	$55.05	$273.52	11872	1.90%	17.70%	39	$926.61	$2526.57	5.94	9.07
17 MOTOR VEH PARTS	$59.28	$261.90	5317	14.99%	38.50%	30	$222.00	$712.41	26.70	52.46
18 TACOM - TOOLING	$46.64	$989.42	2414	8.40%	34.59%	180	$2759.41	$4542.67	1.69	23.16
19 TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20 OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21 COLLAPSIBLE TANKS	$439.00	$1073.64	5775	16.88%	39.06%	8	$2931.84	$1822.44	14.97	47.76
22 AIR COND - HEATERS	$504.88	$112.92	591	37.97%	49.90%	9	$1258.77	$809.96	40.11	32.96
23 AVL DROG/TANK/OTHR	$-5.09	$51.54	8628	-9.46%	24.02%	8	$128.40	$79.52	-3.97	18.85
24 POWER PLANT (NUST)	$490.30	$303.72	160	1.92%	23.66%	13	$1474.04	$1417.91	33.26	36.27
25 FIREFIGHT/FARLF TRK	$-579.75	$2103.67	196	0.71%	15.25%	5	$11006.40	$8743.91	-5.27	8.86
26 PUMPS/COMPRESSORS	$-494.94	$560.57	1314	-2.69%	25.23%	20	$2935.34	$2334.17	-16.86	10.22
27 TRER/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.58%	6	$2289.51	$2268.25	11.32	3.66
28 GEN/LIGHT SETS/UTL	$-226.88	$971.87	11938	5.70%	37.01%	40	$8990.76	$5056.66	-2.52	10.44
29 RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	8.69
30 OTHER TRP SPT ITEM	$-16.60	$934.69	18112	1.42%	30.91%	194	$1492.81	$4638.81	-1.11	24.28
31 OEA - AVIATION	$-89.05	$11185.73	99841	1.43%	28.01%	721	$4152.15	$67954.56	-2.14	14.18
32 OEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33 OEA - ELECTRONICS	$-11.79	$458.65	4087	7.10%	36.56%	29	$401.65	$892.60	-2.94	41.21
34 OEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35 OEA - VEHICLES	$305.42	$833.98	3412	8.39%	29.96%	143	$3926.41	$4051.19	7.78	15.79
36 OEA - OTHER EQUIP	$219.61	$3018.49	26403	0.37%	32.28%	215	$5313.15	$9738.31	4.13	16.00
37 OEA/OSD AVIATION	$15.67	$13476.05	206072	0.92%	28.79%	1147	$4056.28	$78062.55	0.39	15.77
38 OEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39 OEA/OSD ELECTRONIC	$-27.48	$599.13	5930	3.65%	34.30%	46	$793.41	$1260.51	-3.46	36.49
40 OEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41 OEA/OSD VEHICLES	$62.77	$480.14	19788	7.47%	33.39%	259	$984.28	$2664.80	6.38	21.92
42 OEA/OSD OTHR EQUIP	$160.31	$2315.06	47267	1.73%	32.05%	306	$3710.79	$7707.61	4.32	24.22
43 OSD-MSLS/ACFT/UTCV	$100.84	$16477.21	225860	1.06%	29.49%	1406	$3787.13	$75337.86	2.64	18.11
44 OSD-AMMO/CE/OTHER	$89.09	$2124.86	53205	1.74%	32.64%	352	$3385.20	$7334.88	2.63	24.58
45 N S C INDICES	$105.28	$15898.27	279065	2.88%	30.44%	1758	$3710.58	$67852.49	2.84	20.14
46 OEA (ONLY) INDICES	$-15.67	$9729.86	134543	2.27%	29.50%	1108	$4238.84	$58707.72	-0.37	15.17
47 OEA/OSD INDICES	$42.59	$11620.58	279065	2.10%	30.48%	1758	$3710.58	$67852.49	1.15	17.83
48 O S D INDICES	$97.95	$14852.51	279065	1.83%	30.15%	1758	$3710.58	$67852.49	2.64	19.39
49 G N P	$45.89	$13801.75	279065	0.93%	30.80%	1758	$3710.58	$67852.49	1.22	19.29
50 NO UPDATING	$-333.60	$15313.55	279065	-9.35%	28.56%	1758	$3710.58	$67852.49	-8.99	19.89

ERROR DISTRIBUTIONS - RUN 14 - 167 DAYS MIN

CHNG: YEAR ,TAPE: PNR UP> 1.00 500.00<MAXS<********** EQO FILE ON (RATIOS:0= 2.0,S= 1.3,G= 3.0) MIN 167 DAYS,BLOCKS 2(+10)

INDEX NAME	DOLLARS WITHIN ERROR			CUMMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE																		
	+/-10%	+/-20%	+/-30%	-100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	60	85	93	0	0	0	1	2	8	22	48	83	93	96	99	99	99	99	99	99	99	99
2 AIRCRAFT ENGINE	72	77	98	0	0	0	1	1	20	23	89	95	98	99	99	99	99	99	100	100	100	100
3 AVIONICS	16	18	18	0	0	3	81	81	81	83	85	99	100	100	100	100	100	100	100	100	100	100
4 AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH ENCLAVIONC	30	51	82	0	0	0	0	0	7	23	40	53	59	82	100	100	100	100	100	100	100	100
6 COMMUN GRD ACCESSR	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
7 AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SECMT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 COMMO & ELECTRONIC	42	46	66	0	0	10	10	10	32	33	43	76	78	84	91	92	92	99	99	100	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	12	97	97	0	0	0	0	0	0	6	15	18	97	97	100	100	100	100	100	100	100	100
16 INTRNAL COMBST ENG	86	94	97	0	0	0	0	2	4	5	7	92	99	99	99	99	100	100	100	100	100	100
17 MOTOR VEH PARTS	47	62	63	0	0	0	1	4	5	6	30	53	68	68	75	90	90	90	90	90	100	100
18 TACOM - TOOLING	58	81	84	0	0	0	1	9	10	20	39	79	92	93	96	96	98	98	99	99	99	100
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	20	29	55	0	0	0	0	29	29	29	48	58	58	84	84	84	84	84	100	100	100	100
22 AER CARO - HEATERS	6	7	7	0	0	0	0	0	0	0	0	6	7	7	93	93	93	93	93	93	99	99
23 AML BMBG/TANK/OTHR	68	75	82	0	0	3	3	17	17	24	27	93	93	100	100	100	100	100	100	100	100	100
24 POWER PLANT (HUST)	47	50	54	0	0	0	0	0	4	7	16	55	55	55	55	55	100	100	100	100	100	100
25 FIBERFINT/FAHLF ERK	86	86	99	0	0	0	0	0	12	12	90	99	99	99	99	99	99	99	99	99	99	99
26 PUMPS/COMPRESSORS	13	18	96	0	0	0	0	3	81	82	88	96	99	99	99	99	99	100	100	100	100	100
27 TMED/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28 GEN/LIGHT SETS/UTL	77	97	98	0	0	0	1	1	1	1	5	81	82	99	99	99	99	99	99	99	100	100
29 RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100
30 OTHER TMP SPT ITEM	23	62	72	0	0	0	1	12	18	42	53	65	80	85	98	98	99	99	99	99	99	99
31 BEA - AVIATION	57	85	97	0	0	0	0	1	12	27	50	85	97	99	99	99	99	99	99	99	99	100
32 BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 BEA - ELECTRONICS	21	32	56	0	0	0	14	24	47	55	73	76	80	80	82	82	82	99	99	99	99	99
34 BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 BEA - VEHICLES	58	89	93	0	0	0	0	3	6	6	18	57	96	96	97	99	99	99	99	100	100	100
36 BEA - OTHER EQUIP	61	76	87	0	0	0	0	1	5	9	68	70	81	88	99	99	99	99	99	99	99	100
37 BEA/OSD AVIATION	56	80	98	0	0	0	0	1	8	24	43	81	88	99	99	99	99	99	99	99	99	100
38 BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 BEA/OSD ELECTRONIC	41	46	62	0	0	12	10	22	32	35	47	76	78	84	91	92	92	99	99	100	100	100
40 BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 BEA/OSD VEHICLES	52	87	91	0	0	0	0	4	7	12	26	65	95	96	97	98	98	98	99	99	99	99
42 BEA/OSD OTHR EQUIP	54	69	82	0	0	0	1	6	11	14	66	69	80	88	97	97	98	98	99	99	100	100
43 OSD-MSLS/ACFT/HTCV	44	67	98	0	0	0	0	1	8	26	39	78	76	99	99	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	54	73	82	0	0	1	1	6	11	15	66	69	85	88	97	97	98	98	98	99	99	100
45 M S C INDICES	48	66	88	0	0	0	0	2	10	21	54	78	77	90	99	99	99	99	99	99	99	99
46 BEA (ONLY) INDICES	58	83	94	0	0	0	0	1	10	22	54	80	93	96	99	99	99	99	99	99	99	100
47 BEA/OSD INDICES	56	78	95	0	0	0	0	2	8	22	46	79	87	97	99	99	99	99	99	99	99	100
48 O S D INDICES	46	68	95	0	0	0	0	2	9	24	44	78	77	97	99	99	99	99	99	99	99	99
49 G N P	46	79	91	0	0	0	0	5	8	23	46	78	87	97	99	99	99	99	99	99	99	100
50 NO UPDATING	43	59	83	0	0	1	5	16	29	44	67	88	88	99	99	99	99	99	99	99	100	100

ERROR STATISTICS - RUN 15 - 365 DAYS MIN (DATA SAMPLE 2+10)

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS:0= 2.0,S= 1.3/6S= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX	NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1	AIR FRAME	$-17.14	$695.78	74607	0.11%	33.97%	610	$1948.21	$4705.82	-0.88	19.16
2	AIRCRAFT ENGINE	$-226.12	$4189.43	54268	1.96%	30.24%	126	$3094.36	$38655.75	-7.31	10.03
3	AVIONICS	$-1616.14	$3006.03	523	-16.25%	18.80%	11	$4098.44	$6405.78	-44.31	9.48
4	AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5	AIR VEH INCLAVIONC	$84249.01	$550893.96	159	-4.34%	17.32%	10	$2040519.16	$1311060.46	4.13	21.26
6	COMBIN ORD &ACCESR	$167.69	$0.00	258	13.04%	0.00%	1	$1286.35	$0.00	13.04	0.00
7	AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8	AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9	SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10	RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11	CUMMO & ELECTRONIC	$-38.17	$586.24	5676	8.77%	43.38%	36	$635.35	$1184.24	-6.01	40.10
12	MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13	MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14	COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15	CONSTRUCTION EQUIP	$161.21	$156.93	155	1.99%	15.26%	7	$3692.36	$1091.91	4.37	5.57
16	INTRNAL CUMBST ENG	$47.54	$240.74	11738	0.92%	19.10%	31	$886.75	$2451.77	5.36	8.75
17	MOTOR VEH PARTS	$33.70	$139.63	3846	14.46%	27.36%	20	$211.62	$774.82	15.92	24.93
18	TACOM - TOOLING	$133.74	$1414.78	1881	8.25%	35.82%	131	$2649.85	$4565.17	5.05	33.94
19	TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20	OTHER NML/TR/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21	COLLAPSIBLE TANKS	$566.45	$927.95	5334	20.44%	43.55%	6	$2602.25	$1440.14	21.77	47.80
22	AIR CUND - HEATERS	$514.19	$96.90	576	66.02%	69.74%	3	$1199.06	$375.33	42.86	32.53
23	AVL BRDG/TANK/OTHR	$-5.76	$51.34	8256	-11.40%	23.53%	7	$125.29	$79.90	-4.60	17.72
24	POWER PLANT (MUST)	$-73.98	$160.67	38	-6.69%	13.99%	8	$1067.11	$389.77	-6.93	11.97
25	FIREFINT/FRALF TRA	$-579.75	$2103.67	196	0.71%	15.25%	5	$11006.40	$8743.91	-5.27	8.06
26	PUMPS/COMPRESSORS	$-498.67	$569.12	1295	-1.83%	28.57%	15	$2907.31	$2290.67	-17.15	18.44
27	THEO/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.58%	6	$2269.51	$2268.25	11.32	3.66
28	GEN/LIGHT SETS/UTL	$-246.94	$958.68	11542	-3.49%	17.92%	28	$9195.83	$5006.61	-2.66	9.61
29	RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.36%	16.06%	2	$105655.99	$8214.18	29.36	0.69
30	OTHER TRP SPT ITEM	$-24.65	$1103.36	12780	2.69%	38.62%	127	$1563.79	$5250.43	-1.59	25.56
31	BEA - AVIATION	$-112.24	$13370.38	69855	0.15%	31.93%	447	$4516.67	$76033.22	-2.49	15.92
32	BEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33	BEA - ELECTRONICS	$-2.11	$488.03	4211	17.86%	48.50%	22	$392.24	$903.77	-0.54	45.61
34	BEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35	BEA - VEHICLES	$331.13	$839.73	2852	8.45%	30.63%	98	$4171.37	$4138.69	7.94	15.46
36	BEA - OTHER EQUIP	$230.14	$3220.23	23018	-1.49%	35.73%	143	$5854.51	$10243.36	3.93	16.29
37	BEA/OSD AVIATION	$-167.94	$12544.45	129577	-0.91%	32.77%	757	$4938.55	$88539.21	-3.40	13.85
38	BEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39	BEA/OSD ELECTRONIC	$-42.58	$597.58	5676	8.01%	44.65%	36	$635.35	$1184.24	-6.70	40.83
40	BEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41	BEA/OSD VEHICLES	$60.09	$554.17	17620	7.11%	33.13%	189	$952.29	$2620.52	6.31	21.74
42	BEA/OSD OTHR EQUIP	$192.16	$2485.51	40570	0.30%	36.31%	208	$4034.68	$8193.64	4.76	23.84
43	OSD-MSLS/ACFT/MTCV	$-13.00	$17417.57	142197	0.33%	32.47%	946	$4461.38	$83086.16	-0.29	17.89
44	OSD-AMMO/CE/OTHER	$106.04	$2267.00	46246	1.15%	37.44%	244	$3617.47	$7766.09	2.93	24.35
45	M S C INDICES	$18.53	$16167.40	193443	1.97%	33.91%	1190	$4259.63	$72577.53	0.44	19.97
46	BEA (ONLY) INDICES	$-16.09	$11287.17	99936	1.51%	33.46%	710	$4641.16	$63771.05	-0.35	16.53
47	BEA/OSD INDICES	$-67.97	$10332.74	193443	0.84%	34.03%	1190	$4259.63	$72577.53	-1.60	17.05
48	O S D INDICES	$15.46	$15234.06	193443	0.50%	33.55%	1190	$4259.63	$72577.53	0.36	19.42
49	G N P	$-65.69	$13361.46	193443	-0.83%	33.39%	1190	$4259.63	$72577.53	-1.55	18.71
50	NO UPDATING	$-392.92	$16245.28	193443	-15.26%	30.07%	1190	$4259.63	$72577.53	-13.92	17.88

ERROR DISTRIBUTIONS - RUN 15 - 365 DAYS MIN (DATA SAMPLE 2+10)

CMND: TSAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EQQ FILT ON (RATIOS:Q= 2.0,S= 1.5,G= 3.0) MIN 365 DAYS,BLOCKS 2(+10)

INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1 AIR FRAME	64	85	93	0	0	1	3	4	11	18	53	82	96	97	98	99	99	99	99	99	99	99
2 AIRCRAFT ENGINE	73	77	98	0	0	0	0	0	21	23	95	97	98	99	99	99	99	99	99	99	100	100
3 AVIONICS	5	5	5	0	0	4	94	94	94	96	99	100	100	100	100	100	100	100	100	100	100	100
4 AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 AIR VEH INCLAVIONC	21	48	100	0	0	0	0	0	11	37	47	59	59	100	100	100	100	100	100	100	100	100
6 COMBIN ORD &ACCESR	0	100	100	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
7 AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 RIFL REP CENTRFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 COMMO & ELECTRONIC	37	42	56	0	0	14	23	23	38	43	53	81	81	81	89	90	90	99	99	99	100	100
12 MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CONSTRUCTION EQUIP	96	97	98	0	0	0	0	0	0	1	7	97	98	98	100	100	100	100	100	100	100	100
16 INTRNAL COMBST ENG	90	94	97	0	0	0	0	2	5	6	7	96	99	99	99	99	100	100	100	100	100	100
17 MOTOR VEH PARTS	42	58	64	0	0	0	0	0	6	6	37	48	64	64	75	95	99	100	100	100	100	100
18 TACOM - TOOLING	47	72	76	0	0	0	1	11	15	27	35	74	87	88	88	93	95	96	96	99	99	100
19 TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 COLLAPSIBLE TANKS	13	13	80	0	0	0	0	0	35	35	37	49	49	80	80	80	80	80	100	100	100	100
22 AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	93	93	93	93	93	99	99
23 AVL BRDG/TANK/OTHR	80	80	80	0	0	3	3	19	19	19	22	100	100	100	100	100	100	100	100	100	100	100
24 POWER PLANT (MUST)	56	74	96	0	0	0	0	3	25	43	72	100	100	100	100	100	100	100	100	100	100	100
25 FIREFIGHT/FRKLF TRK	86	86	99	0	0	0	0	0	12	12	90	99	99	99	99	99	99	99	99	99	99	99
26 PUMPS/COMPRESSORS	12	14	95	0	0	0	0	4	83	83	90	96	98	99	99	99	99	100	100	100	100	100
27 THEO/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28 GEN/LIGHT SETS/UTL	78	98	98	0	0	1	1	1	1	4	81	83	99	99	99	99	99	99	99	99	99	99
29 RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30 OTHER TRP SPT ITEM	18	64	75	0	0	0	1	4	11	54	64	73	75	80	97	98	99	99	99	99	99	100
31 BEA - AVIATION	46	81	96	0	0	0	0	2	16	34	42	82	97	99	99	99	99	99	99	99	100	100
32 BEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 BEA - ELECTRONICS	18	32	60	0	0	0	17	17	45	58	75	76	77	77	77	77	76	98	98	100	100	100
34 BEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 BEA - VEHICLES	48	88	93	0	0	0	0	2	6	7	16	55	95	96	97	99	99	99	99	100	100	100
36 BEA - OTHER EQUIP	62	75	86	0	0	0	0	1	5	9	70	71	81	87	99	99	99	99	99	99	99	99
37 BEA/OSD AVIATION	57	87	97	0	0	0	0	1	10	32	44	90	98	99	99	99	99	99	99	99	99	99
38 BEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 BEA/OSD ELECTRONIC	35	44	57	0	0	15	23	23	37	45	59	81	81	81	89	89	90	99	99	100	100	100
40 BEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 BEA/OSD VEHICLES	50	64	89	0	0	0	0	5	8	14	23	65	93	94	95	97	98	98	98	99	99	100
42 BEA/OSD OTHR EQUIP	55	69	86	0	0	0	1	1	10	15	67	70	80	88	97	98	98	98	98	99	99	100
43 OSD-MSLS/ACFT/MTCV	41	72	97	0	0	0	1	1	10	34	43	75	82	99	99	99	99	99	99	99	99	99
44 OSD-AMMO/CE/OTHER	54	74	85	0	0	1	1	2	11	16	67	70	85	88	92	97	98	98	98	99	99	100
45 M S C INDICES	47	66	96	0	0	0	1	1	12	26	61	74	79	98	99	99	99	99	99	99	99	99
46 BEA (ONLY) INDICES	52	79	93	0	0	0	0	2	13	26	50	78	92	95	99	99	99	99	99	99	99	100
47 BEA/OSD INDICES	56	83	95	0	0	0	0	1	10	28	48	85	94	97	99	99	99	99	99	99	100	100
48 O S D INDICES	44	72	95	0	0	0	1	1	10	30	48	74	83	97	99	99	99	99	99	99	99	99
49 G N P	48	86	90	0	0	0	1	6	9	29	48	78	95	97	99	99	99	99	99	99	99	100
50 NO UPDATING	43	58	79	0	0	1	6	19	37	52	73	96	96	99	99	99	99	99	99	99	100	100

ERROR STATISTICS - RUN 16 - 500 DAYS MIN

CMND: TSAR ,TAPE: PMR UP> 1.00 500.00<MAXS<********** EOQ FILT ON (RATIOS:0= 2.0,S= 1.3,GS= 3.0) MIN 500 DAYS,BLOCKS 2(+10)

INDEX NAME	UPRICE ERROR MEAN	UPRICE ERROR STD-DEV	UPRICE ERROR QUANTITY	UNWEIGHTED PERCENT ERROR MEAN	UNWEIGHTED PERCENT ERROR STD-DEV	UNWEIGHTED PERCENT ERROR NUMBER	UNIT PRICE MEAN	UNIT PRICE STD-DEV	DOLLAR WGHTED % ERR MEAN	DOLLAR WGHTED % ERR STD-DEV
1 AIR FRAME	$-23.46	$641.41	57311	-0.04%	36.26%	500	$1422.84	$2928.42	-1.65	24.27
2 AIRCRAFT ENGINE	$-563.69	$6614.51	53440	1.32%	30.21%	104	$2580.32	$34495.84	-22.54	9.93
3 AVIONICS	$-1815.71	$3008.30	523	-15.47%	19.80%	11	$4098.44	$6405.78	-44.30	9.53
4 AIR VEH EXCLAVIONC	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
5 AIR VEH INCLAVIONC	$91463.62	$857034	0.28	148	-4.67%	18.22%	9	$2124777.29	$1320611.60	4.30	21.57
6 COMBIN ORD &ACCESR	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
7 AMMO OVER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
8 AMMO UNDER 30 MM	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
9 SIGHT & FIRECONTRL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
10 RIFL REP CENTRFIRE	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
11 COMMO & ELECTRONIC	$-35.87	$664.16	4538	11.01%	46.24%	31	$723.75	$1273.52	-4.96	42.72
12 MISSILES PROCUREMT	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
13 MISSIL GRND SPT EQ	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
14 COMB GRND SPT&MISL	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
15 CONSTRUCTION EQUIP	$185.60	$143.50	146	5.77%	19.34%	5	$3668.24	$1100.06	5.06	5.84
16 INTRNAL COMBST ENG	$61.25	$244.27	9960	1.57%	19.48%	23	$983.97	$2649.11	6.78	6.26
17 MOTOR VEH PARTS	$48.26	$142.15	3130	17.40%	30.52%	17	$244.90	$845.79	16.44	23.34
18 TACOM - TOOLING	$209.31	$1552.64	1442	9.61%	36.09%	109	$2986.55	$4888.91	7.01	35.41
19 TACTICAL VEHICLES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
20 OTHER WHL/TK/CBT V	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
21 COLLAPSIBLE TANKS	$1115.00	$520.32	2885	43.84%	48.28%	3	$1522.92	$452.97	73.21	49.73
22 AIR COND - HEATERS	$514.19	$96.90	576	66.02%	69.74%	3	$1199.06	$375.33	42.88	32.53
23 AVL BRDG/TANK/OTHR	$-18.38	$80.37	3238	-13.29%	24.98%	6	$167.18	$115.71	-10.99	22.69
24 POWER PLANT (MUST)	$-116.71	$173.38	32	-9.10%	13.37%	6	$1070.07	$419.54	-10.91	12.53
25 FIREFIGHT/FRMLF TRK	$-668.25	$2249.72	181	-1.05%	16.59%	4	$11397.73	$8988.39	-5.86	7.73
26 PUMPS/COMPRESSORS	$-577.96	$566.14	1132	-2.99%	30.52%	13	$3177.37	$2328.73	-18.19	9.47
27 THEO/TBL E/SURV IN	$259.20	$234.60	150	12.79%	8.56%	6	$2289.51	$2260.25	11.32	3.66
28 GEN/LIGHT SETS/UTL	$-255.43	$1008.14	10417	-5.82%	18.42%	23	$10087.80	$4427.37	-2.53	9.52
29 RAILROAD EQUIPMENT	$31039.78	$2602.70	145	13.34%	16.06%	2	$105655.99	$8214.18	29.38	0.69
30 OTHER TRP SPT ITEM	$-28.30	$1138.78	11877	2.19%	37.48%	108	$1592.57	$5427.52	-1.78	25.61
31 DEA - AVIATION	$-352.59	$14295.83	62211	-0.48%	33.11%	364	$4398.54	$78790.22	-8.83	15.64
32 DEA - AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
33 DEA - ELECTRONICS	$7.82	$558.81	3246	24.37%	51.56%	18	$460.89	$957.91	1.70	47.99
34 DEA - MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
35 DEA - VEHICLES	$424.96	$846.32	2296	8.99%	26.77%	76	$4805.63	$4358.90	8.84	12.67
36 DEA - OTHER EQUIP	$259.64	$3357.43	21135	-3.14%	33.91%	117	$6262.11	$10588.65	4.15	16.17
37 DEA/OSD AVIATION	$-293.91	$13596.92	111422	-1.34%	34.38%	624	$4772.59	$94180.63	-6.16	14.12
38 DEA/OSD AMMUNITION	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
39 DEA/OSD ELECTRONIC	$-41.72	$676.02	4538	10.04%	47.52%	31	$723.75	$1273.52	-5.76	43.44
40 DEA/OSD MISSILES	$0.00	$0.00	0	0.00%	0.00%	0	$0.00	$0.00	0.00	0.00
41 DEA/OSD VEHICLES	$76.50	$574.60	14678	8.46%	33.03%	154	$995.52	$2803.77	7.68	21.40
42 DEA/OSD OTHR EQUIP	$257.62	$2846.96	30553	-0.69%	36.42%	174	$4937.68	$9212.84	5.22	23.94
43 OSD-MSLS/ACFT/VTCV	$-106.05	$18936.42	126100	0.17%	33.76%	778	$4332.94	$80543.26	-2.45	19.57
44 OSD-AMMO/CE/OTHER	$143.59	$2588.26	35091	0.62%	38.18%	205	$4392.73	$8724.06	3.27	24.56
45 M S C INDICES	$-85.93	$18230.53	161191	2.05%	35.45%	983	$4345.96	$78420.31	-1.98	22.97
46 DEA (ONLY) INDICES	$-173.77	$12075.71	88888	1.01%	33.71%	575	$4702.76	$66130.75	-3.70	17.06
47 DEA/OSD INDICES	$-148.54	$11376.48	161191	0.67%	35.25%	983	$4345.96	$78420.31	-3.42	17.82
48 M S D INDICES	$-51.71	$16792.65	161191	0.26%	34.73%	983	$4345.96	$78420.31	-1.19	20.91
49 G N P	$-168.62	$14898.41	161191	-1.47%	34.52%	983	$4345.96	$78420.31	-3.88	20.37
50 NO UPDATING	$-803.77	$18646.51	161191	-18.48%	30.25%	983	$4345.96	$78420.31	-18.49	19.50

ERROR DISTRIBUTIONS - RUN 16 - 500 DAYS MIN

CMND: USAR ,TAPE: PHR UP> 1.00 500.00<MAXS<********** EOQ FILT ON (RATIOS:0= 2.0,1= 1.3,2= 3.0) MIN 500 DAYS,BLOCKS 2(**10)

	INDEX NAME	DOLLARS WITHIN ERROR +/-10%	+/-20%	+/-30%	CUMULATIVE DOLLAR DISTRIBUTION BY ERROR PERCENTAGE -100	-75	-50	-40	-30	-20	-10	0	10	20	30	40	50	75	100	125	150	175	200
1	AIR FRAME	56	76	86	0	0	1	5	8	16	26	53	83	92	95	97	98	99	99	99	99	99	99
2	AIRCRAFT ENGINE	2	7	98	0	0	0	0	0	90	94	95	96	98	99	99	99	99	99	99	99	100	100
3	AVIONICS	3	5	5	0	0	4	94	94	94	96	99	99	100	100	100	100	100	100	100	100	100	100
4	AIR VEH EXCLAVIONC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	AIR VEH INCLAVIONC	19	46	100	0	0	0	0	0	11	30	46	50	50	100	100	100	100	100	100	100	100	100
6	COMMUN GRD EQUCESR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	AMMO OVER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	AMMO UNDER 30 MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SIGHT & FIRECONTRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	MISL REP CENTAFIRE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	COMMO & ELECTRONIC	25	33	52	0	0	15	26	26	44	47	50	72	77	78	88	89	89	99	99	99	100	100
12	MISSILES PROCUREMT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	MISSIL GRND SPT EQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	COMB GRND SPT&MISL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	CONSTRUCTION EQUIP	94	96	97	0	0	0	0	0	1	1	1	95	97	97	100	100	100	100	100	100	100	100
16	EXTRMAL CONSST ENG	91	96	99	0	0	0	0	0	3	4	5	96	99	99	99	99	100	100	100	100	100	100
17	MOTOR VEH PARTS	50	66	66	0	0	0	0	0	0	34	50	66	66	78	99	99	100	100	100	100	100	100
18	TACOM - TOOLING	36	64	76	0	0	0	1	12	15	24	34	64	80	89	90	92	94	95	96	99	99	100
19	TACTICAL VEHICLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	OTHER WHL/TK/CBT V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	COLLAPSIBLE TANKS	37	37	37	0	0	0	0	0	0	0	37	37	37	37	37	37	37	100	100	100	100	
22	AIR COND - HEATERS	0	0	0	0	0	0	0	0	0	0	0	0	0	93	93	93	93	93	93	99	99	
23	AML BRDG/TANK/OTHR	63	63	63	0	0	7	7	36	36	36	43	100	100	100	100	100	100	100	100	100	100	100
24	POWER PLANT (MUST)	40	61	100	0	0	0	0	0	38	59	76	100	100	100	100	100	100	100	100	100	100	100
25	FIREFIGHT/FAMLY TRK	86	86	99	0	0	0	0	0	13	13	94	99	99	99	99	99	99	99	99	99	99	99
26	PUMPS/COMPRESSORS	0	10	95	0	0	0	0	0	4	87	87	94	96	98	99	99	99	99	100	100	100	100
27	TNEO/TBL E/SURV IN	3	95	99	0	0	0	0	0	0	0	0	3	95	99	99	99	99	99	99	99	99	99
28	GEN/LIGHT SETS/UTL	79	98	98	0	0	1	1	1	1	3	81	83	99	100	100	100	100	100	100	100	100	100
29	RAILROAD EQUIPMENT	0	0	100	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100
30	OTHER TAP SPT ITEM	10	65	75	0	0	0	1	4	9	55	66	74	74	79	98	98	99	99	99	99	99	99
31	DEA - AVIATION	11	79	96	0	0	0	1	2	10	69	79	81	98	98	99	99	99	99	99	99	99	99
32	DEA - AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	DEA - ELECTRONICS	0	17	56	0	0	0	10	10	57	62	62	63	75	75	75	75	76	98	98	100	100	100
34	DEA - MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	DEA - VEHICLES	40	91	96	0	0	0	0	0	4	5	12	53	96	97	97	99	99	99	100	100	100	100
36	DEA - OTHER EQUIP	63	75	86	0	0	0	0	1	5	8	71	71	81	87	99	99	99	99	99	99	99	100
37	DEA/OSD AVIATION	39	86	97	0	0	0	0	1	12	49	60	89	98	99	99	99	99	99	99	99	99	100
38	DEA/OSD AMMUNITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	DEA/OSD ELECTRONIC	22	33	51	0	0	17	26	26	44	49	56	72	77	77	86	88	89	99	99	99	99	99
40	DEA/OSD MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	DEA/OSD VEHICLES	46	84	91	0	0	0	0	3	7	12	20	59	91	95	96	97	98	98	98	99	99	100
42	DEA/OSD OTHR EQUIP	58	73	85	0	0	1	1	1	8	12	69	71	81	87	97	98	98	98	98	99	99	99
43	OSD-MSLS/ACFT/UTCV	20	66	97	0	0	0	1	1	12	52	59	72	78	99	99	99	99	99	99	99	99	99
44	OSD-AMMO/CE/OTHER	57	78	84	0	0	1	2	2	8	13	69	71	87	87	97	97	97	98	98	99	99	99
45	M S C INDICES	30	50	96	0	0	0	1	2	25	41	60	72	76	98	99	99	99	99	99	99	99	99
46	DEA (ONLY) INDICES	20	78	92	0	0	0	0	2	14	48	74	77	92	95	99	99	99	99	99	99	99	99
47	DEA/OSD INDICES	43	83	94	0	0	0	1	2	11	40	61	84	94	96	98	99	99	99	99	99	99	100
48	O S D INDICES	20	69	94	0	0	0	1	2	11	43	61	72	80	96	99	99	99	99	99	99	99	99
49	G N P	29	85	89	0	0	0	1	7	10	45	61	75	95	96	99	99	99	99	99	99	99	100
50	NO UPDATING	20	40	59	0	0	1	7	39	56	68	72	96	97	99	99	99	99	99	99	99	99	99

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Price Update Methodology for Use in Maintenance Expenditure Limits (MEL)

THE PRINCIPAL FINDINGS and recommendations of the work reported herein are as follows:

1. Each of the five index sets investigated for its applicability and accuracy--Major Subordinate Command (MSC), Bureau of Economic Analysis (BEA), Office of the Secretary of Defense (OSD), combined BEA/OSD, and Gross National Product (GNP) implicit Price Deflator--was approximately equally accurate in predicting current unit replacement prices.

2. In developing a secondary item MEL, the Gross National Product index should be used to update item prices that are more than one year old. The rationale is that the GNP index appears to be as accurate as any of the other index sets considered, but is clearly easier to apply and, unlike the other index sets, does not require that items be grouped for index assignment thus being applicable to all items.

THE MAIN ASSUMPTION on which the work reported herein rests is the expectation that the GNP index will be applicable to price updates in future years.

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THE SCOPE OF THE STUDY was limited to Army depot maintenance activities and the depot-MSC interaction in maintenance programs.

THE STUDY OBJECTIVE was to develop a procedure for updating depot reparable secondary item replacement prices used in Maintenance Expenditure Limit decisions.

THE BASIC APPROACH was to identify inflation indices that are easily located and that reflect general price trends. These were assigned to Federal Supply Classes and the item prices updated to an FY 84 level. Selected index-updated item prices were compared to actual item prices and, based on the degree of correlation, the best update method selected.

THE REASONS FOR PERFORMING THE STUDY were to develop a simple to use yet accurate means of bringing to a current level the prices of secondary, Army depot reparable items. Current prices are critical for meaningful Maintenance Expenditure Limit decisions.

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